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## THE TRADE FOR FIFTEEN YEARS.

THE completion with the present issue of the THE INDIA RUBBER WORLD of the fifteenth year of publication seems a proper occasion for indulging in a somewhat retrospective review of the trade which this Journal represents. And first we may be pardoned for observing that, in this era of constant change, it is something of an achievement to keep a newspaper going for fifteen years, under the same name, in the same form, and without departure from its original policy, and especially without change in its editorial control, and at the same time to retain the support of its *clientele*.

Even the most cursory review of the rubber interest for the last fifteen years reveals a period of remarkable growth. Not the least interesting developments have been in connection with the production of crude rubber. While the Amazon valley has continued the leading source of supplies, the vast rubber fields of Africa, practically unknown fifteen years ago, have been developed on a large scale, and the rubber from there, at first badly prepared and received by the manufacturers with distrust, has become better in quality and finds a ready market at prices often on a par with the Pará grades. During this period also has come an extended interest in rubber culture in Mexico and Central America and in the Far East, resulting in the planting of millions of thrifty trees, the oldest of which are now beginning to produce rubber profitably. The attempts to "corner" crude rubber during this period, made by Vianna and Flint, and the spectacular failure of both, are matters of history. In connection with crude rubber supplies, reclaimed stock should be taken into account, and in this line the progress has been most satisfactory, better grades being manufactured, and nearly everything in the way of vulcanized scrap now being recovered.

In the way of rubber machinery nothing revolutionary has occurred, although many new machines for specific uses have been invented and are in successful operation. The ordinary factory equipment to-day as compared with that of a decade and a half ago is notable as being much heavier and of greater capacity. At no time in the history of the industry have there been such heavy, large hydraulic presses, so many large calenders, and mills.

As for the manufacture of rubber goods, the greatest progress in any one line in volume of business, and in new and interesting products, has been, of course, in the way of mechanical rubber goods. The most important development in this line is the large production of rubber tires, first introduced on a practical basis within fifteen years. The invention of the pneumatic bicycle tire, its wonderful sudden development, and the final settling down into a staple business, will long be remembered as one of the spectacular incidents of the rubber trade. The growth of the solid vehicle tire in public favor, although it has been slower, is equally interesting, while the production of the many types of automobile tires has taxed the ingenuity and the capacity of the brightest minds in the trade.

In the line of rubber footwear the growth of the busi-

ness has been remarkable, and it would seem almost as if it had outpaced the needs of the market. The specific changes in this line have been the general substitution of the wool boot, with rubber over, for the rubber boot, in the northwestern United States, and the general introduction of the tennis shoes throughout the American market. Appertaining to footwear, there may also be noted the rubber heel, which was long looked upon as a fad, but is now considered a staple product.

In the line of rubber clothing the trade has witnessed the remarkable growth in America of the gossamer rubber garment and its subsequent extinction. This was followed by the mackintosh, which, together with the shower proof garment of the cravenette order, may be reckoned upon as having a large and steady market.

In druggists' sundries the general business has increased notably, and the tendency has been to make goods of finer finish, with more artistic lines, and packed with an eye to artistic effect. Close to this line is the manufacture of dipped goods, in which there has been a remarkable growth in the United States, and lines of goods produced which have captured the markets of the world.

Fifteen years ago there were not a few who believed that celluloid products would soon displace hard rubber. That prophecy, however, has had no fulfilment, nor has any substitute been found for the better grades of hard rubber. The business has shown a steady normal growth, and particularly in electrical lines has it had many interesting developments.

In the production of insulated wire and cables the growth has been much larger, though the United States has not thus far become an important factor in deep sea cable work. This country has never paid the attention to Gutta-percha that the rest of the world has, except, during the last few years, in the line of golf balls. Here have been surpassed the expectations of those interested in the production of sporting goods, the American ball leading the world.

While this rather cursory review relates more directly to the industry in the United States, with which THE INDIA RUBBER WORLD is most closely concerned, it is more or less applicable to the rubber industry as a whole. Elsewhere, the most marked development in the volume of trade has been in Germany, which has attained within recent years a much more important relative rank among rubber manufacturing countries. The benefits to the industry there which have resulted from the close relation of the trained chemist to the factory have not been without an influence upon the industry in all other countries.

THE INDIA RUBBER WORLD desires again to express its appreciation of the support which it has received from the trade, not only at home but to a measurable extent in every other country in which any interest in rubber exists. It promises, likewise, to endeavor to continue to merit this support, by keeping its readers promptly and accurately informed of progress in the industry, of changing trade conditions, and the development of sources of raw materials, in such manner as shall render it of real value in every branch of the rubber interest.

### THE ALLEGED "CORNER" IN RUBBER.

WE do not doubt that holders of crude rubber, like merchants in other lines of business, sell their wares for all that can be got for them. Why shouldn't they? Probably there are times when a sudden rise enables an importer to dispose of a stock of rubber at an exceptional profit. But prices are liable to decline quite as suddenly, involving loss to the dealer.

The merchant who buys crude rubber to sell again must depend not a little upon guesswork—as to what volume of rubber is forthcoming in any season, whether it will arrive promptly or otherwise, and what is to be the demand for consumption. These are the elements that determine prices, and a merchant able to forecast them unerringly for a few seasons would have the whole trade at his mercy. As the business is conducted, however, the rubber merchant is more apt to avoid buying largely on his own account, preferring to make purchases for the account of consumers, in which event he is sure of a commission on every order, whether prices are high or low.

Yet one continually hears remarks on the "corner" in rubber, as if all the sources of supply were under a single control, and that dominated by interests intent upon the oppression of the manufacturer. If such controlling interest can be located we shall regard it as a most important piece of news, and give it prominence accordingly.

From our own standpoint, we have not been able to discover any such agreement among all the rubber trading houses of the world as would be necessary to control prices permanently. And if a company should be organized for any such purpose, we should regard its share certificates on a par with the "gold bricks" which are reputed to find a market among exceptionally gullible rustics.

Any manufacturer who will, is free to-day to go to Manáos or Pará or Antwerp—not to name other ports—and buy rubber in the same markets with the importers who now supply him nearer his factory. And if all the rubber importing houses in Europe and America were to combine to force consumers to pay exorbitant prices for rubber, there would not fail to come into existence new trading houses ready and willing to handle the raw material at a fair profit, and who would find an opportunity to pick up stocks from the daily arrivals, at some market or another, from scores and hundreds of prime bases of supply.

Our German contemporary has lately made some pertinent remarks, which we are pleased to reproduce on another page, in refutation of the idea that the high prices of rubber are due to an alleged "ring" of importers in Liverpool. We will only supplement these with the suggestion that rubber is higher in price now than formerly for the same reason that ivory and whalebone are higher—the supplies are smaller in proportion to the demand.

It is stated that in seventy years the price of whalebone has risen from 13 cents to nearly \$7 a pound, but not as a result of a "corner" at any time. One important difference between whalebone and rubber, however, is that the latter is capable of being made more plentiful by means of

cultivation, as is bound to be proved by the yield of many plantations within the next few years.

THE MECHANICAL RUBBER MANUFACTURERS of this country are to be congratulated upon having taken steps to form such an organization as is reported, on another page, to be under way. The possibilities for good to the industry are many, though it may take time to demonstrate the real value of the organization. But certain it is that in an industry so extensive and embracing so many men of ability, good must come from a movement designed to render them better acquainted, and to put them in a position to work in concert in matters in which their common benefit is concerned, rather than have them continue to work without coöperation, even if all should have the same objects in view. It is a narrow view which some persons have taken of such a movement—that its chief purpose should be an agreement upon prices. This should be and will prove to be the last thing undertaken. The longest maintained and the most beneficial organization of rubber manufacturers in existence is that in Germany, and it has never attempted, as a body, the regulation or control of selling prices of products. But doubtless there are customs in the trade, which have grown up through carelessness here or injudiciousness there, the correction of which would be worth more to the manufacturers to-day than a material advance in selling prices, and in dealing with such problems the keenest competitors can afford to work in harmony, for the good of each and of all concerned.

IN THIS AGE OF LABOR SAVING MACHINERY it is only natural that attention should be devoted to mechanical aids in the production of rubber, which hitherto has been accomplished by hard work alone, and principally in countries without any surplus of laborers. Not the least element of interest in connection with a rubber smoking device illustrated on another page of this paper is the fact that it has been designed and patented by a Brazilian—in a land whose people have not been noted for enterprise or ingenuity in the mechanical field.

A GRUESOME BIT OF NEWS which we find in the *Brazilian Review* of August 2 may have a more direct connection with the rubber trade than appears at first sight. The paragraph reads:

Several of the children of the 1051 refugees from the drought at Ceará, who arrived at Belem [Pará] in the steamship *Itabira*, died en route of the effects of starvation. The captain, Mr. R. Nilson, did what he could, supplying food at his own cost, but the relief, in this instance, came too late.

We are led to believe that the droughts in Ceará are about the most devastating known in any country. That being essentially an agricultural state, a season without rain means that the population must go elsewhere for means of subsistence. Leaving their cattle behind to perish for want of water, the farmers from whole districts actually flee with their families, without always being able to escape with their lives. The chief recourse of the Cearenses, in such circumstances, is to seek employment in the rubber camps up the Amazon, and they make the best of all available *seringueiros*, being more intelligent and more capable of sustained labor than the Indians native to the upriver districts. Ceará's misfortune, therefore, is turned to the rubber consumers' advantage, since an unusual influx of Cearenses in the *Hevea* producing districts means an increased production of rubber. What is more, of every considerable body of Cearenses going into the rubber fields, a certain pro-

portion remain, giving rise to a permanent population of rubber workers of the best type yet known, and giving greater system and continuity to the business of getting out rubber. If the above item of Brazilian news means anything, it indicates a large movement of laborers to the rubber districts this year, and at the beginning of the season.

### WHO CUTS THE AMAZON CABLE?

TO THE EDITOR OF THE INDIA RUBBER WORLD: In reference to the article published in your August number [page 380] giving the cause of the many interruptions of the Amazon cable, as explained by Captain Arthur Schindelar, I beg to state that his information is absolutely unfounded and incorrect. The Amazon cable is not purposely cut to aid or abet those interested in rubber, as that gentleman's statement implies, nor has the company any other interest than to keep the cable in working order. Captain Schindelar apparently does not know that any one cutting a cable or otherwise interfering with telegraphic communication commits a crime, and is liable to a term of imprisonment not less than three years. Imagine having to suborn the officers and crew of the repair ship, the staff at Manaós and Pará (not to mention the intermediate stations), the representative at Rio de Janeiro, and the London directors for nine years!

Who can be paying for the loss in traffic and the bribes all this time, and who is doing the cutting? It cannot be the rubber merchants, as nearly every house in Pará is represented by a branch in Manaós, and all business is stopped in the latter city during the interruptions. It cannot be the federal government, seeing that a subvention is paid by it to assist the company. It cannot be the state governments, when we know they expended 7,000,000 milreis to open up a road for a land telegraph line, which was constructed and afterwards abandoned on account of the expensive maintenance and interruptions due to falling trees, landslides, etc. It cannot be the company itself, seeing that during the interruptions the traffic is *nil* and the subvention reduced if the trouble lasts over 90 days, and over £1,000,000 have already been spent to improve the service.

Will Captain Schindelar kindly say by whom the cable is cut? I am sure the cable company would pay him handsomely for his information. I can testify that up to the end of 1902 the cable company had used every means and device that science can teach in order to maintain permanent telegraphic communication between Pará and Manaós. I defy any one to prove that the interruptions are not due to natural causes, the principal ones being falling banks, sunken logs, chafing by rocks, and the bed of the river changing on account of the seething current, which in its mad career washes everything before it, the cable becoming buried, making repairs difficult. I wonder if Captain Schindelar has ever noticed the current opposite Parintins and Obidos, or the meeting of the waters below Manaós? Fancy a cable living in that turmoil! *There is no necessity to cut it.* I regret not having met or heard of Captain Schindelar during the ten years I was in that district, where I know every port on the river between Pará and Manaós and consequently everyone of importance, especially Americans and English travelers; however, I hope the information he picked up regarding the "controlling (*sic*)" of the rubber trade on the Amazon" was from a better source than that of the cable interruptions. Yours very truly,

R. H. MARDOCK,

Late Superintendent of the Amazon Telegraph Co., Limited; *Concessionaire* for Wireless Telegraphy in Amazonas state; and secretary to the Amazon Commission at the St. Louis World's Fair.  
New York, August 22, 1904.



## THE GOVERNOR OF PARA STATE.

THE portrait on this page is that of the young governor of the state of Pará, Brazil, who, previous to the fall of the monarchy, started his public career in the diplomatic service, being sent to England and France. After rendering service to his country as a member of the chamber of deputies in the Federal congress, he was elected governor, and is at present in the fourth year of the direction of the public affairs of his state. Through his determined and convicted policy, his management of the state of Pará during the last four years has been that of reconstruction of the budget, heavily thrown out of equilibrium by the economic and financial crisis of the last five years. Nevertheless, encountering only obstacles in his way, he adopted a very economical policy which is already yielding good and material results. Dr. Augusto Montenegro is the governor of one of the richest states of the Brazilian republic. In the revenues of the customs of the republic, Pará to-day takes the third place, that of Rio being first and Santos second.

The principal element of the rich resources of the state is the India-rubber industry; the crop July, 1902, to June, 1903, amounted to 11,327 tons, representing approximately \$14,850,000 in value. The crop ending June 30, 1904, showed an increase in tonnage, and, owing to the high valuations in consuming markets, one will not err in saying that this part of the Amazon valley produced over \$16,000,000 worth of raw material.

Pará has yet a good many unexplored sources of production, and with the regular exploitation of the Xingú, Tapajós, and Tocantins rivers—the present output from which represents but a small fraction of their possible production—the India rubber production will go far beyond the figures given above. The development of these rivers, with the aid of railroads to give easy access to the falls, would open another era of prosperity to this great state, where the natural resources are inviting to foreign capital and paying undertakings.

Governor Montenegro was elected November 15, 1900, by a large majority, for a term of four years, and was inaugurated in office February 1, 1901. There is talk of the probability of his reelection this fall, in which case Pará will have cause for congratulation, for the honesty and energy that the governor has displayed thus far are a guarantee of prosperity to his native state.

On the occasion of his birthday, in July, Governor Montenegro was the object of an imposing demonstration on the part of the merchants of Pará. In reply to the address that was presented to him, the governor pointed out that it had been from the first an aim of his administration to maintain order and credit without increasing expenditure. This he had realized, and the disorders so common when he took over the administration had ceased, and not only had he, in spite of the terrible financial crisis, not added a *vinetm* to taxation, but on the contrary it had been reduced. This was possible only by the exercise of the strictest and, as it has been termed, almost "ridiculous" economy. To pay off obligations accumulated under previous administrations, the foreign loan was negotiat-

ed and the banks and commercial body relieved of a mass of credit paper too heavy for their market to carry. The effect has been immediate, and though for some time the Pará market must feel the consequences of the late crisis, confidence has revived and with better rubber prices and greater stability of exchange, prosperity is returning. The *Brazilian Review*, edited by an Englishman, remarks in this connection: "The merchants do well to be grateful to Dr. Montenegro who, young as he is, has shown good sense and resolution in dealing with difficult problems, quite uncommon in this country."

## THE RUBBER SCRAP SITUATION.

FROM Russia a correspondent of THE INDIA RUBBER WORLD writes: "The price for old rubber shoes has heretofore been so low because there were large quantities of them here in Russia, and we were compelled to sell at any price. At present, however, the quantity of old rubber shoes in the market is very small, as most dealers have already sold their stock, while, on account of the low prices which prevailed, few have been collected, these coming mostly from distant parts of Russia, whence the railroad freight to here amounts to 2 cents per pound. Under these conditions it does not pay to collect the old shoes, and there probably is only one third of the quantity in the market that we usually had in the past. Besides, Russian manufacturers at present buy large quantities of rubber shoes, while an export duty of 2½ cents per pound on old rubber shoes has been approved and may at any time begin to be enforced. So, if the American manufacturers will not pay higher prices, they will not be able to buy old rubber shoes in Russia, and will be compelled to confine themselves to American old rubber shoes, which will, of course, lead to higher prices in America also."

AT the request of some leading firms in the rubber trade who were in doubt as to whether the proposed Russian export tariff on waste rubber had been put in force, the department of state at Washington cabled to the United States embassy at St.

Petersburg for positive information on the subject, and received the following return cablegram, dated August 4:

Informed by Russian government that time when new export duty on rubber waste becomes operative not yet fixed; probably very soon, in view of conclusion of Russo-German commercial treaty. MCCORMICK.

## THE JIMINEZ RUBBER PLANTATION.

A YEAR ago this Journal mentioned more than once the planted rubber trees on the coffee estate of the late Joaquin Jimenez, of Tuxtepec (Oaxaca), Mexico. These trees were seen by Ben L. Edgerton, in his recent inspection, as shareholders' committee, of the Batavia plantation, which is near by. The estate as a whole, now owned by the founder's son, Joaquin Jimenez, is reported in a prosperous condition, and the rubber trees large and thrifty. The inspector for the Obispo plantation, John A. Schauweker, also visited the Jimenez property. He reports that the rubber covers about 50 acres, for which the owner asks \$80,000 [Mexican?], or \$1600 per acre, his father having refused \$1200 per acre.



DR. AUGUSTO MONTENEGRO  
Governor of Pará.



## RUBBER PLANTING IN CEYLON AND THE MALAY STATES.

*As Seen by The Editor of "The India Rubber World."*

## SIXTH LETTER—CONCLUSION.

Rubber Plantations at Klang, in Selangor.—Mr. Bailey and his Work.—Distance of Planting.—Age at Which *Hevea* Trees Yield.—The Labor Question.—Mr. Carey's Planting.—The Chinese as Rubber Planters.—The Selangor Rubber Co.—Return to Singapore and Departure for Hong Kong.

**D**URING the night spent on the *Sappho*, on the trip from Singapore to Selangor, we passed through a succession of heavy showers, but the sea was smooth and it was cool enough to be fairly comfortable. The meals aboard the boat were also good, and the native servants as intelligent as it paid them to be. At 8 the next morning we stopped at Port Dickson, where there is a good harbor, with an iron pier and a few bungalows and native houses set down in the jungle. After discharging freight we left, following the coast about three miles out. The land was low, wooded down to the water's edge with an occasional break where a river discharged its muddy flood into the clear water of the Straits.

In due time I reached Port Swettenham, where a short railroad journey took me to Klang. The station master then told me that I could safely trust the rickshaw man to take me to Mr. W. W. Bailey's bungalow, where I had been invited to make my headquarters. He evidently knew the name, for he grinned, said "Bailee," and started off. Far out into the country he took me, perspiring profusely, but keeping steadily at it. On the way we passed considerable plantations of *Hevea*, which I examined with interest. Finally he stopped at a gateway and pointed out a hillside bungalow and again said "Bailee" and intimated that he was ready to be paid. I did not quite share his confidence, however, and insisted that he accompany me up to the house, which with some reluctance he did. And it was lucky that I did so, for it soon developed that this was the bungalow of the plantation superintendent, who was absent, the house being in charge of the native servants. Not speaking much Malay and they knowing no English, it was a bit difficult for me to make them understand what I wanted, but finally one of them mounted a bicycle and, inviting us to follow, led us back to Klang, and up to the real Bailey bungalow. The house was most beautifully situated on a slight eminence with beautiful palms, foliage plants, and flowers in its gardens, and a view in the distance of the lofty istana of Selangor's sultan.

I was at once cordially welcomed by Mr. Bailey and his beautiful wife, and entertained most delightfully. The next morning we drove over the road that I had traveled twice the day before, and went thoroughly over both Lowlands and Highlands estates. After stopping at the bungalow of the superintendent, from which we had a fine view of acres of *Hevea*, we drove by the coffee mill, and the coolie lines to the extreme end of Lowlands, where the very last planting had been done.

This was in alluvial soil divided up into parallelograms by drains that were 4 to 5 feet wide and from 3 to 6 feet deep. The soil was wonderfully rich and was not planted with *Hevea* seeds but three foot stumps, as the seeds and the tender shoots have so many animal and insect enemies that stumping is far more successful. These stumps are nursery plants cut back into the brown, set out carefully and never shaded. Not only is the top cut back, but the tap root is shortened a bit to prevent doubling, and the laterals are also trimmed a little.

This planting is done in any month of the year when the rains are on. In preparing the ground holes are dug 15 to 18 inches in diameter and about the same number of inches deep, the hole being left open for two weeks, after which a little of the surface soil is scraped in. Then the plant is set and carefully covered in. The trees that are ready for tapping are selected, not by their age but from their size. For a general rule any *Hevea* that is 30 inches in circumference 3 feet from the ground is large enough to produce rubber. In a plantation in a good

location in this part of the world the trees mature about as follows: At the end of the fifth year about 25 per cent. will be large enough to tap; at the sixth year there will be 50 per cent., and at the seventh all of them should be big enough.

Speaking again of the drainage system at Lowlands, it was marvelously complete, all of the channels leading into the great agricultural drain that ran through the middle of the plantation, and which I believe was a government enterprise.

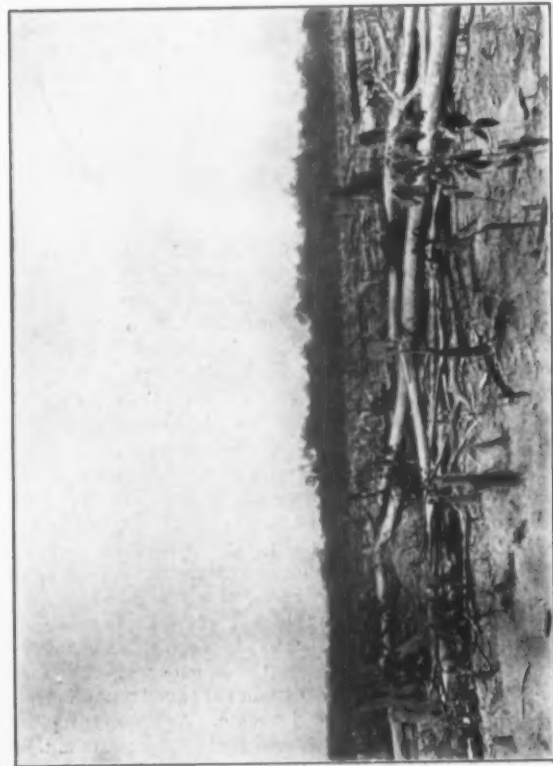
In examining the plantation we walked over good paths by

the side of the drains, crossing them on tree trunk bridges, and ended by driving over two very good roads that led to the very heart of the planting. The oldest rubber on Lowlands was some 500 acres of five year old trees, numbering 52,000. These had been later interplanted with another 52,000 of varying ages. There was also 120 acres of two year old trees, 18,000 in number. The largest five year olds that I saw were 27 inches in circumference, 3 feet from the ground, and were in a lot that were planted 20 × 20 feet. Speaking of distances observed in planting, Mr. Bailey had tried many experiments. He had plots 14 × 14, 14 × 28, 14 × 42, 20 × 20, and 24 × 24 feet. The latter plantings were almost all interplanted later with *Ficus elastica*. There was also considerable coffee in with the rubber, and as it happened to be of an especially fine quality it at that time was paying all of the expenses of the planting and care of the rubber.

The laborers were a mixed lot, being Tamil, Chinese, and Javanese coolies. The Tamils are rather hard to get but are fairly good laborers; the Chinese coolies are good rough laborers but are not the equal of the Javanese. As there is a glut of labor in Java there is a likelihood that the planters in the Malay states will be able to get many of them, and as they all



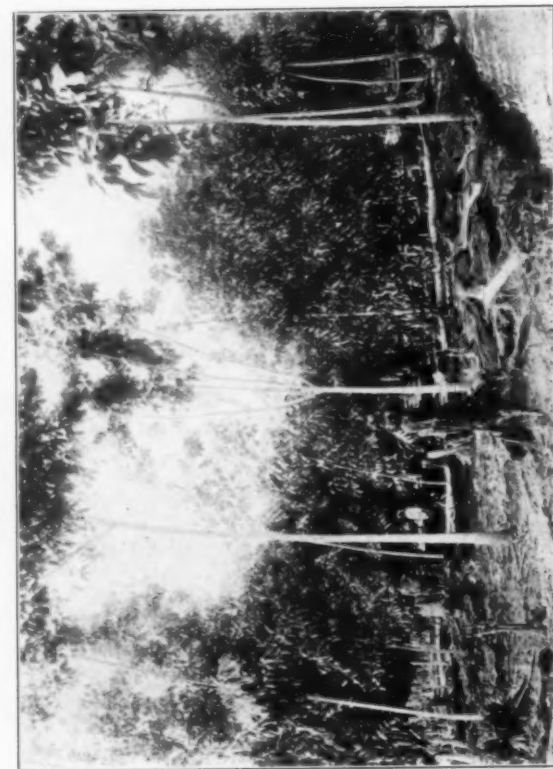
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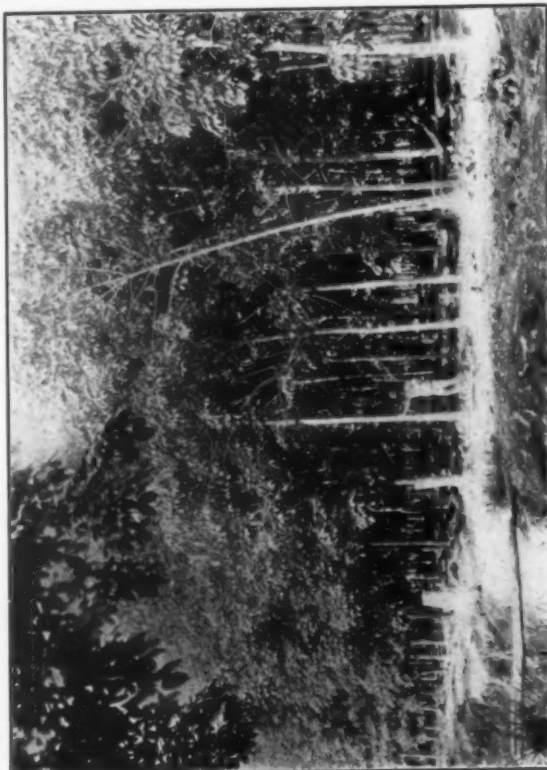
"HEVEA" SIX MONTHS AFTER PLANTING.



"HEVEA" PLANTED APRIL, 1900.



"HEVEA" AND "FICUS" INTERPLANTED.



PLANTED 1899; PHOTOGRAPHED 1903.  
VIEWS ON THE PLANTATION OF THE SELANGOR RUBBER CO., FEDERATED MALAY STATES.



MR. BAILEY'S BUNGALOW, KLANG.



FOUR YEAR OLD HEVEA, KLANG ESTATE.

speak Malay and are content with 35 to 40 cents, Mexican, a day, and find themselves, they are much sought after. Besides they had far rather work for an Englishman than a Dutchman.

After visiting Highlands estate and looking over the coffee mill, Mr. Bailey took me for a drive out in the outskirts of Klang, that I might see the small plantings of the Chinese. These were of no especial moment, being chiefly coffee gardens grown up with grass, with a few *Ficus elastica* or *Hevea* trees put in at haphazard. One Chinaman, Cong Lamb, however, had about 20 acres of coffee and *Hevea* planted 15 x 15 feet, the trees looking about 5 years old and quite well grown.

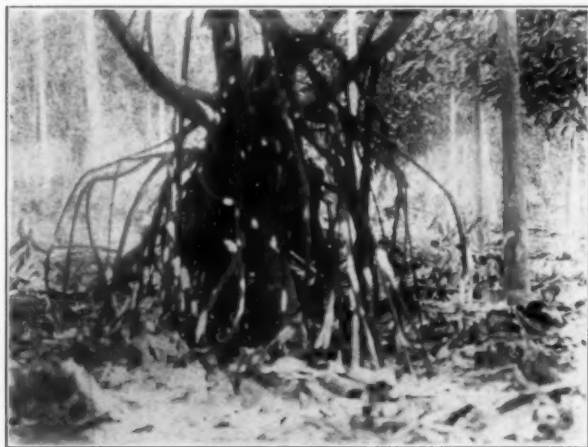
But the plantations owned by Chinamen and run by Europeans are another matter. For example, the Kong Yaik estate, which is managed by Mr. E. V. Carey. Here are 300 acres containing some 60,000 trees that average 3 years of age. Most of this rubber is planted 20 x 10 feet, although there is some 10 x 10 and 15 x 15. One advantage of the 10 x 10 planting was that almost no weeding was necessary, the ground being absolutely free from all vegetation. While going over this plantation Mr. Carey and I experimented with a two handled tapping knife, an invention of his, which certainly did very effective work.

Next to the estate of which Mr. Carey has charge is the Batu Unjor plantation owned by a wealthy Chinaman, Loke Yew, on which there are some 17,000 4½ year *Heveas* which looked first rate.

The land in Selangor belongs to the state and is acquired by the payment of \$2, Mexican, an acre cash, and \$1 an acre annual rental in perpetuity; 25 per cent. of the land taken must be under cultivation within five years, or it reverts to the government. At the same time the powers that be are very lenient and disposed to help all honest effort by granting time extensions. There is also a 2½ per cent. *ad valorem* export duty on such products as rubber that is a part of the land grant.

That evening many friends of Mr. Bailey's dropped in and dined and later visited the Klang club, where I met a score or more of young Englishmen who were connected either with the government or with the plantations in the neighborhood.

The next morning my host took me by rail to Batu Tiga, where is another big rubber plantation in which he is interested—the Selangor Rubber Co., or, in the native, Sungei Rengam. We put in three hours of hard tramping over this



FOUR YEAR OLD PLANTED "FICUS."

[On the Lowlands and Highlands estate. Showing the Aerial Roots as thrown down at this age. *Hevea* trees in the background.]

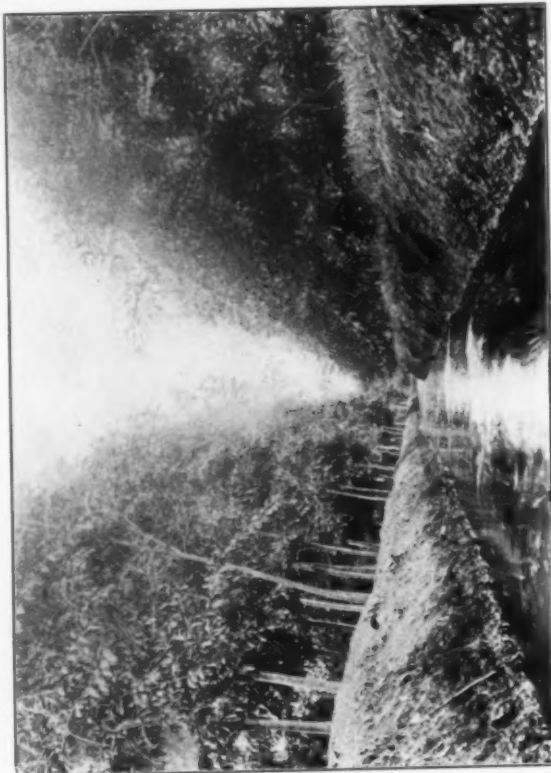


WILD "FICUS ELASTICA" IN SELANGOR.





FIVE YEAR OLD "HEVEA"—PATALLING ESTATE.

"HEVEA" AND "FICUS" ON THE HIGHLANDS AND LOWLANDS ESTATE.  
RUBBER PLANTATION VIEWS IN SELANGOR, FEDERATED MALAY STATES.

FOUR YEAR OLD "FICUS"—SELANGOR RUBBER CO.



PANORAMIC VIEW OF THE HIGHLANDS AND LOWLANDS ESTATE.



CUTTING A ROAD THROUGH JUNGLE.

[A scene in Selangor.]

estate, and got very hot and damp. But it was well worth while.

The plantation is seven miles from Klang, on the railroad that joins Klang with Kula Lumpur. There is also a fine government road soon to go through this estate. It consists of 5150 acres, of which 1150 are already opened and in rubber. To this will be added 300 acres this year, the trees being planted about 200 to the acre. The soil is a rich alluvial, slightly rolling, and is cut by huge drains that lead into the Klang and the Damansara river. The oldest planting was made in May, 1898, and was  $24 \times 36$  feet, this planting being quincunx in the latter part of the same year and in October, 1900, was still further interplanted. The last planting, however, is so thoroughly shaded by the earlier that it is doubtful if it amounts to anything. The trees in the first planting average  $28\frac{1}{2}$  inches in circumference, 3 feet from the ground, the largest being 47 and  $52\frac{1}{2}$  inches in circumference. Of the plantings already mentioned, there were 90 acres  $24 \times 36$  feet, and 45 acres  $14 \times 14$ . These latter showed an average of  $29\frac{1}{2}$  inches circumference at the base, and 19 inches 5 feet from the ground. In 1899 there were 30 acres planted  $12 \times 12$  and 90 acres  $14 \times 14$ . The former measured when I was there, on an average, 26 inches at the base and 16 inches 5 feet from the ground. In 1900 there were 285 acres put into Pará and 47 acres in "rambong" or *Ficus elastica*. There are also various other plantings of Pará and *Ficus* alternating, of Pará and coffee, and of *Ficus* alone. The *Ficus*, when alternated with Pará, seems to do wonderfully well, as does also the Pará.

The greatest care is taken of this plantation, the whole area being weeded by hand until the shade becomes so dense that no weeds grow, all of the aerial roots of the *Ficus* being cut away except those that will develop into good straight trunks,

and the keenest sort of watch being kept for white ants, which are always to be found in the new land. As tapping will begin the next year, a rubber curing house  $20 \times 60$  feet has been built, and all preparations are being made for turning out the best quality of rubber. All of the trees seem to produce latex abundantly, although there was a wide difference in the appearance of the bark, some being quite white, while other showed a distinct shade of red. There were a variety of theories as to the cause of this, but the real reason was not apparent.

After the examination of the Selangor estate, and a very pleasant visit with the manager, at his bachelor bungalow, where, by the way, he presented me with a cane made of polished sections of a great variety of hard woods indigenous to that country, we again took train and started for the Pataling estate. The road ran for some miles through the densest sort of jungle, the land on one side for some six miles being owned by the Selangor company. When we reached Pataling we found that the superintendent, Mr. Rendle, was away, as was also his wife. His assistant, Mr. Smith, was there, however, and he urged us to come up to the bungalow, which was prettily located on an eminence overlooking the plantation, and ordered the Malay servant to prepare for us "mukan"; in other words, food. While we ate, it rained very heavily, but soon after cleared up and we were so sure that the storm was over for the day that we allowed a black boy to take our mackintoshes down to the station while we examined the rubber. The soil here seemed a trifle hard and was more hilly than that which I had before examined, but the rubber looked well. After examining that on the hillsides we went down to a lower level and were just beginning to take measurements, when the rain



"HEVEA" ON THE VALLAMBROSA ESTATE, KLANG.



A RIVER VIEW FROM KLANG.

came down again in torrents. We each selected a big tree, under which we stood for a while, but ere long even that was no protection, so we started for the railway station. We were now drenched to the skin and the walking was very bad. We, however, caught our train, and in due time arrived in Klang, where, after a change of clothing and a substantial dinner, we felt as well as ever.

I had hoped to have time to run down to Port Dickson and visit Mr. V. R. Wickwar, who has a fine plantation of *Hevea*, but I found my time would not admit of it. Nor did I visit the Pears plantation in Muar, as the owner, to whom I had letters, was absent in England.

Speaking of close planting and hand weeding, I could not but be struck with the fear that the planters have of fire. Mr. Bailey, who once had charge of a large plantation in Johore, told me that the fire once got into some thousands of acres of his sago, and although he had 500 men of his own and 900 lent him by the sultan, they were weeks in getting it under. He had, by the way, some hundreds of acres of Ceará rubber which were also destroyed.

There is little *Castilloa* planted in Selangor. I saw a little on Lowlands, which bled freely, but the planters do not care for it, as they believe that either the *Hevea* or the *Ficus* is superior. The latter tree is of course a native of this land, and grows to great size. There are reports of as much as 100 pounds being taken from a single tree. Ten year old trees are said to produced from 12 to 15 pounds.

The time came all too soon for me to say good by to the Baileys, whose generous hospitality I shall always remember, and the following forenoon saw me in a sampan headed for the *Sappho*, which lay far out in the river. I got aboard finally, and was greeted by Captain Foster like a long lost friend. The voyage back to Singapore was uneventful, the sea being perfectly smooth, and the temperature bearable.

Along toward evening we came in sight of Malacca, but, much to my regret, did not get a chance to go ashore. In fact our captain being in a hurry, did not even anchor, but hove to in the open roadstead and

there received the agent, the health officers, port warden, and a few passengers. Here at Malacca is quite a large plantation of *Hevea* owned by a Chinaman, who speaks good English and who is the proud possessor of some 300,000 rubber trees. I wanted mightily to have a look at it, but time did not permit.

Again in Singapore I called upon Mr. Murray, a partner of Mr. Bailey's, who had in the beginning smoothed my way appreciably, had tiffin with him, at the Singapore Club, and then hurried to get my passage arranged for on the *Malta* to Hong Kong. By the way I took from Mr. Murray two bottles of oil made from the nuts of the *Hevea*, which were packed as carefully as possible and which were all right until the strenuous baggage smashers of the United States got hold of my luggage—and then the bottles broke.

I was also fortunate enough to have the time for another rickshaw ride over Orchard road to the Botanic Gardens. Here I found that Director Ridley's right hand man, Mr. De Alweis, had made a set of photographs for me that embraced the whole of their varied growths of India-rubber and Gutta-percha trees. One of the most striking of these was the photograph of the *Hevea* seed beds, in which the effect of various manures was shown. The experiments covered the use of poudrette, mixed lime and soil, burnt earth and leaves, cow dung, and burnt earth. As may be seen in the illustration on this page, the rubber trees planted with cow dung far surpassed all the others in height and sturdy growth.

The next day I said farewell to Singapore and was well on my way to China, Japan, the Sandwich Islands, San Francisco, and home; that in brief is the finish of my visit to the rubber plantations in the Far East.

On my way home I met those who were deeply interested in rubber culture, as a future development of the rich lands in French Indo China, British North Borneo, and Sumatra—in fact, wherever there is the conjunction of proper soil, climate, and cheap labor. Even the Japanese are preparing to plant rubber in Formosa. In the Philippines there is little present interest, as the shutting out of Chinese and Javanese labor makes the installation and care of a plantation far too costly to be remunerative.



YOUNG "HEVEA" SEEDLINGS IN BEDS, IN MANURE TEST.

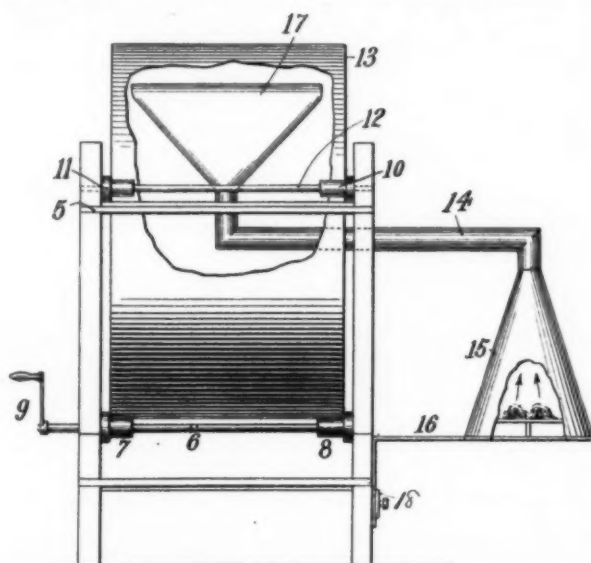
[No. 2.] Poudrette. [No. 3.] Mixed Lime and Soil. [No. 4.] Burnt Earth and Leaves.  
[No. 5.] Cow Dung. [No. 6.] Burnt Earth.



## DANIN'S MACHINE FOR SMOKING RUBBER.

THE increasing interest in bringing the production of India rubber under intelligent supervision, in forests as well as on plantations, is evinced by the issue of numerous patents for mechanical appliances for use in connection with extracting *latex* or its conversion into rubber. Herewith is reproduced the drawing accompanying the specifications of United States patent No. 765,167, issued July 19, 1904, to João Roso Cardoso Danin, of Pará, Brazil, for "an apparatus for treating raw rubber," or, more properly, for smoking the *latex* of such varieties as are susceptible of coagulation by the use of smoke.

The operation of this device is based upon the discharge of heated products of combustion upon a mass of *latex* on the inside of a rotating cylinder, but the inventor does not claim broadly to cover this principle in his patent, it having been embodied in the invention of Manoel Vianna Coutinho, of Brazil, illustrated in THE INDIA RUBBER WORLD, March 15, 1894 (page 170), and protected by United States patent No.



511,781. The Coutinho patent is now owned by Senhor Danin, who has sought to add certain improvements to the device.

In the drawing 13 relates to a revolvable cylinder or drum, suitably supported, and rotated by means of a shaft 6, carrying friction rollers 7 8, and having a crank 9. The ends of the drying drum are provided with circular openings, of three-fifths of the diameter of the drum, through one of which extends a conduit 14 by means of which smoke is introduced, the *latex* having first been introduced through one of the open ends of the cylinder. Under the outer downwardly turned end of the conduit is a funnel 15, under which is placed the fuel for producing the smoke. The other end of the conduit is provided with a flaring nozzle 17, through which the smoke is discharged into the cylinder. The figures 10, 11 relate to anti friction rollers, on shafts, on either side of the drum, to aid in keeping the same in position, there being no axial support for the drum.

In using the apparatus, the *latex* is poured into the cylinder, which is then rotated. The nearly fluid *latex* spreads over the inside of the circumference of the cylinder and is carried by the revolution of the latter past the discharge end of

the smoke conduit, the treatment being continued until, in the judgment of the operator, the resulting layer of rubber has been sufficiently coagulated. Fresh *latex* is then admitted, and the operation repeated, the number of successive layers thus produced being limited only by the capacity of the cylinder. When the deposit of rubber within the cylinder has become so thick as to be too close to the smoke funnel 17, as at first adjusted, the latter may be lowered, successively, by means of the support 16, working in the socket 18. One point upon which the patent specification is silent is the manner in which the coagulated rubber is removed from the cylinder.

## RUBBER TRADING PROFITS IN AFRICA.

THE annual meeting of the Nieuwe Afrikaansche Handels-Vennootschap, of Rotterdam, was held on July 16, when the dividend on the trading for 1903 was fixed at 4 per cent. This is the oldest company trading on the Congo, having established a branch at Boma as early as 1860, and rubber figures to an important extent in its operations. At the above meeting the directors reported a flourishing condition of the enterprises in which the company is interested in the Congo Free State, while the affairs of the French colonial companies with which the company is associated are improving. They were confident, therefore, regarding the future. The company holds 340 shares in the Syndicat du Kasai, one of the Belgian Congo companies, out of a total of 2010 [See THE INDIA RUBBER WORLD, July 1, 1903—page 344], and these figure in the company's balance sheet at 7000 francs each, or a total of 2,380,000 francs [= \$459,340].

\* \* \*

THE annual meeting of the Cie. Anversoise des Plantations du Lubefu was held early in the month in Brussels, when the accounts for 1903 were approved. The credit side of the profit and loss account is 68,110 francs [\$13,145.23], which is apportioned between general expenses and sinking fund. These figures mark a heavy decline as compared with the profits reported a few years ago, when good dividends were declared. In 1901 the company merged its commercial system in the Syndicat du Kasai, reserving the plantations of rubber [See THE INDIA RUBBER WORLD, October 1, 1902—page 9], and the question now comes up of dealing with the company's Kasai shares to pay its debts. Two Kasai company shares were sold during the year at 9700 francs each. It is proposed to deliver such remaining shares as it may be necessary to sell, at 9000 francs each, to a syndicate which the company's shareholders may join. The Labefu company had proposed to sell its concessions, but was informed officially that the Congo Free State was opposed to a transfer to a new company. The company retains its rubber plantations, dating from 1900. It is not hoped that these will be productive before the fifth or sixth year, at best.

\* \* \*

THE Brussels journal *La Chronique Coloniale* says: "THE INDIA RUBBER WORLD of New York reproduces our information concerning the participation of the Société A B I R in the rubber plantations of the Malayan states, and by way of commentary proposes the question: 'Does this foreshadow the beginning of the end of large yields and large profits in King Leopold's rubber regions?' We think that in this fact we must see nothing else but the desire of the stockholders of the A B I R to share, by temporarily giving up a part of their profits, in interesting experiments which promise to be profitable."

## THE MANUFACTURE OF RUBBER HEELS.

BY J. W. C.

RUBBER heels are now made by the ton. Millions of pairs are sold and used, and the demand seems constantly to grow, so that the production of this class of goods has become an item of no small importance to the rubber industry. Hence it has occurred to the writer to offer these few suggestions, in the hope that they may prove of some practical value.

The compounds used range in cost from 10 cents to 40 cents a pound. For heels not over  $\frac{1}{2}$  inch in thickness it saves time to use stock "slabbed out" on the mixing mills. Many heels, however, are made from two separately mixed stocks, a cheap grade being used for the top of the heel (*i. e.*, next the foot), and another, with superior wearing qualities, for the tread. Such a combination is commonly "plied-up" on the calender, for when thus joined there is less liability of the component stocks splitting apart when in use as heels. To cut up slabs of stock preparatory for mold work steel dies are used, closely copying the size and shape of the heel. A power press controlled by a foot lever is frequently used, and one in which slabs 36 to 40 inches wide can be handled, is preferable, as it admits of rapid dieing-out across the width of the slab.

In some shops great pains is taken to trim the stock thus died-out to a specific weight, thus adding a large and unnecessary item to the cost of production. Assuming that there are no wide variations in the specific gravity of a given stock, and it is furnished in slabs of a specified and uniform thickness, as it should be, then with a proper assortment of cutting dies trimming to weight becomes a superfluous operation. Work in mill room and calender room has, however, an important bearing, as careless or imperfect work there will make weighing and trimming a necessity. This is especially true where "plunger" molds are used, as a heel or two heavier than the rest will prevent the other heels in the mold from "filling-out." Uniformity in thickness and weight of heels before curing necessarily effects percentages in cured waste. In figuring cost 5 per cent. is generally specified, although some shops allow 10 per cent. Care regarding this item will show, however, that cured waste need not exceed an average of 3 per cent. There is, it appears, such a thing as figuring this item of cured waste to too fine a point, as it is susceptible of demonstration that a heel cured with an abundant overflow, has a closer grain and will outwear one produced with barely enough stock to fill the mold cavity.

In the press room, as in other departments, production is the keynote. Each press should be so handled that its maximum capacity is attained. Heel molds are made containing from 12 to 16 cavities. A capable pressman should handle two to four such molds per heat. There is "no money" in the use of single-platen presses for curing heels. The two-platen press is proportionately better and the four-platen press the best of all, for it will accommodate the work of two men handling 16 molds between them. This is an important item where floor space and the number of presses that can be used is limited. A factory that had floor space for but 10 presses, could, with the single-platen style produce 3500 pairs of heels in ten hours; with 10 four-platen presses, 14,000 pairs.

Superintendents generally have to make the most of their factory equipment as it stands, and where this includes an open-steam vulcanizer, the output of the press room in heels may be substantially increased by beginning the cure in presses and finishing it in the vulcanizer. Let us suppose, for illustration, that the proper cure for a particular heel stock is 15 or 20 minutes. Ten minutes in the mold is probably all the time neces-

sary to perfectly mold the heel, although not to thoroughly cure it. At that time, however, it can safely be removed from mold and the cure completed in open steam, to the distinct betterment of the product, and a material increase in the number of heels turned out during the day.

There is just now a demand for a heel that will not bloom, and if the compounds give trouble in this particular, a cure of 30 minutes at 50 pounds in the open steam vulcanizer, as above suggested, will effectually dispose of the bloom. After trimming, all heels should be cleaned by washing in a hot solution of potash, then rubbed with a cloth moistened with naphtha or a small quantity of glycerine. This results in a black heel of very attractive appearance. The introduction of a heel with a piece of duck vulcanized into the wearing surface has added another item to the burden of worries carried by the factory superintendent. It can be made successfully, although at a considerable advance in cost over the plain article.

The production of a perfect heel is contingent largely upon the class of work demanded of the press room. As in all press-work, the greatest care must be taken to keep the molds clean. The pressman can accomplish this in large part, and nothing sharpens his senses so rapidly as charging him with the value of heels that are defective owing to some neglect on his part. In spite of the best oversight, however, molds will gradually accumulate a thin scale, especially in those parts bearing the name or trade mark or ornamental design. Boiling in strong potash, followed by a few minutes in a sand blast, will clean a mold thoroughly. A thin solution of castile soap (say  $5\frac{1}{2}$  ounces to a pail of hot water) makes a good solution, and is in common use, and where a stock gives trouble by sticking to the mold, 1 or 2 ounces of carbolic acid will be found of advantage. Two points are to be observed if the heels are practically to fall out of the mold as soon as it is opened: Cleanliness and proper soaping. It is easy to put on too much soap. Heels have a very aggravating way of not "filling-out," although plenty of stock has been used. This should be looked for in a stock that is too dry, and in the more expensive stocks. This trouble can be overcome by placing the loaded mold in the press and allowing the stock to become softened by the heat, before actually closing the press upon it. Increasing the length of cure two or three minutes has also been tried, with good results.

## A TARIFF DECISION ON RUBBER TOYS.

IN the matter of a protest by George Borgfeldt & Co. against the assessment of duties by the collector of customs at New York, the United States general appraisers decided, on July 30, that rubber dolls and doll heads are dutiable at 35 per cent. *ad valorem* under paragraph 418 of the tariff act. Kindred articles of rubber, such as figures of children with elastic cords attached thereto; grotesque, military, and other figures such as clowns, horseback riders, animals, etc., although toys, are expressly excluded from classification under this paragraph, and are dutiable as manufactures of rubber under paragraph 449, at 30 per cent. *ad valorem*. The importers contended that the articles were rubber toys, not dolls, and that, inasmuch as toys composed of rubber are expressly excluded from the provisions of paragraph 418, they are properly dutiable at 30 per cent., as manufactures of rubber. "Dolls and doll heads of whatever material" being provided for by paragraph 418, the board of appraisers undertook to decide what are dolls, and it was set forth that "rubber articles representing children, dressed or undressed, whether the arms and legs thereof are partly detached from the body or otherwise, were universally and generally known as dolls," and were dutiable as such.

## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

*By Our Regular Correspondent.*

**I**N the course of an editorial in the May issue of THE INDIA RUBBER WORLD it is suggested that the limit has not been reached in the utilization of the lower classes of rubber or rubber like gums. Reference is made to the success attending the use of Pontianak, a material which seems to be more highly thought of in America than in Europe. Though of course it is always a feather in the cap of the technologist to make satisfactory use of materials which have been overlooked or thrown aside as valueless, yet in this case of rubber there are many who look with suspicion upon the introduction into rubber mixings of low class rubber like bodies; enough damage has already been done to the trade, they say, by the efforts to utilize this, that, or the other substance instead of sticking to genuine rubber. The correct way, however, I take it, of looking at the subject is for the manufacturer to have a clear idea of the properties expected of the goods and to act strictly in accordance with what is known. Thus where elasticity and strength are of the first importance it would be supreme unwisdom to introduce bodies admittedly lacking these properties. This of course is a mere truism, but I mention as a prelude to what follows. Outside the rubber merchants proper there are several shipping houses in England who occasionally have parcels of rubber to dispose of. This rubber may be of very variable quality and its disposal a matter of some concern to those who are not versed in the subject. But what I wished to refer to was a complaint made to me by one of these occasional rubber merchants, that the British were behind the times because they would not buy rubber of any sort, as the Germans did. British manufacturers, my informant said, wanted brands of certain quality and would not quote at all for poor quality stuff they were unfamiliar with, while with the Germans whatever the quality there was always a quotation forthcoming. My friend seemed to think that the adaptiveness of the German to low quality rubber was necessarily a sign of technical superiority, but I was unable to agree with him. When I can have it definitely proved to me that technical training can enable a manufacturer to turn out strong elastic goods from African flake then I shall acknowledge that the Germans can beat us.

THE USE OF  
LOW GRADE GUMS.

MY attention has been called to a misstatement in the few remarks I made on this subject in the July issue of these notes. The facts of the case, as regards the rubber pavement at Euston, are that it is under the hotel and not actually at the station, and that the original pavement was the work of Messrs. Charles Macintosh & Co. and not the North British Rubber Co. Some relaying, however, which has recently been done was carried out by the latter company. As showing further that Messrs. Macintosh are by no means novices at this class of work, I may mention that previous to laying the Euston pavement they laid some down under the Midland Grand Hotel, St. Pancras, in 1875. [See an article on this subject on another page of this issue.—THE EDITOR.]

RUBBER  
PAVEMENTS.

A PARAGRAPH headed "Killed Through Wearing India-rubber Heels" caught my eye in one of the papers. According to the evidence the deceased slipped on the stairs and broke her neck. The coroner having examined the shoes said the heels were more like the screw of a steam launch than anything else, they would revolve so easily. A witness said she had repeatedly warned

the deceased about wearing those heels as they were very unsafe indoors. This seems to me rather a severe indictment of the revolving heel; personally I know nothing of them, and by some remarks recently made in this Journal, I gained the impression that the use of the term revolving was wrong, as the heels were merely capable of being turned round when one side was worn. Evidently, however, this is not correct, but as attention has now been prominently drawn to the undesirable nature of this type of heel the time is opportune for makers of non-revolving heels to advertise the merits of their goods.

DESPITE the undoubted progress made by more than one system of wireless telegraphy, the efflux of time has shown that shareholders in the submarine telegraph companies have no need to be unduly anxious as to the value of their holdings. The fact that nearly all European governments are exercising control over the installation of the new systems on account of their real or supposed danger in times of warfare is a somewhat awkward matter for the several companies and a rather unexpected development. Another important fact in the situation is that the Eastern Telegraph Co. have announced their intention of using a wireless method in certain parts of their system where its application promises to be of great utility.

WIRELESS  
TELEGRAPHY.

I UNDERSTAND that the Russian-French Rubber Works, "Provodnik," of Riga, Russia, are about to engage in the rubber thread branch, and that plant is about to be installed on a large scale. Mr. William Coulter, who was formerly engaged in this manufacture with Messrs. Charles Macintosh & Co., Limited (Manchester), has been appointed manager and has left England for the scene of his new labors.

NEW BRANCH OF  
MANUFACTURE.

I NOTICED lately an advertisement in some journal of a large rubber factory requiring a superintendent for its thread department. I imagine that the right man will be very difficult to obtain, that is if he is to be one who is an expert in the manufacture throughout. In the few factories in England where this article is made the superintendence is sub-divided among responsible foremen, each of whom understands his own department but accepts no responsibility for the work of other departments. Thus, one man will go as far as the mixing, rolling, and vulcanizing; another looks after the cutting, and the third the winding into hanks and the careful testing which is necessary to detect under or over vulcanization. I imagine that the men who understand the whole manufacture are very scarce, and it is to be hoped that the firm advertising will do better than a certain British firm which entered lightly upon the manufacture, only to give it up again after a period of disaster.

RUBBER  
THREAD.

AS on one or two former occasions, my notes of this month are shorter than usual owing to traveling interfering with ordinary business procedure. I am posting this from Copenhagen, a town of considerable size and interest, but which does not seem to contain anything particularly worthy of comment here. The rubber factories of Denmark and Sweden where I am proceeding on my way north, are not situated in the capital towns, but in somewhat out of the way places, thus making a visit to them rather a tax on the tourist's time. The weather here as in England and Germany continues very hot, and not at all conducive to the interests of the waterproof trade.

## COPENHAGEN.

RUBBER  
HEEL PADS



## GERMAN VIEWS OF THE RUBBER CRISIS.

FROM THE "GUMMI-ZEITUNG," AUGUST 5.

**A** DIRECTOR of one of the largest Berlin rubber goods factories has expressed himself as follows in the *Berliner Tageblatt*:

The critical situation in which the German rubber factories are placed at present may be ascribed to two causes—overproduction and the constantly increasing disproportion of the prices of crude materials and the manufactured goods. The overproduction may be explained by the fact that within the last three years many new factories have come into existence which were determined to transact business at any price in order to obtain a foothold, and has been made still greater by the fact that some German electrical companies, who were formerly extensive buyers, have for the past two years manufactured their own requirements in rubber goods. The abnormal rise in the price of raw stuffs was inaugurated about two years ago. Pará rubber, quoted at the close of 1902 at 2s. 10d. per pound, had, in December, 1903, advanced to 3s. 9½d., and at present is quoted at 4s. 11d., which shows that within eighteen months the price has nearly doubled. This rise in prices was not caused by scant supplies (which have slowly increased), but solely by the manipulations of English dealers in crude rubber. The English market is dominated by perhaps less than ten firms, who tenaciously cling to the high prices. Occasionally, by cornering the market, they create an artificial scarcity of supplies; this is especially applicable to one of the largest rubber firms of Liverpool.

It has been impossible for the German rubber manufacturers to raise the price of their manufactures to anything nearly proportionate. The factories in general have continually sustained losses, having been compelled to buy materials at advanced prices to fill contracts estimated at a lower figure. Some of them sustained losses by the failure of firms, with whom they closed contracts for the delivery of crude rubber to fulfil their obligations, owing to the severe rise in prices. The idea of forming a *kartell* was advanced, but, owing to the fact that in Germany there exist about 55 rubber goods factories, each of them making specialties, it has been abandoned. To show how difficult it is to bring the several factories together, it may be mentioned that at a conference recently called by the *Verein Deutscher Kautschukfabrikanten* for the purpose of advancing the prices of rubber goods, only twelve factories were represented; the other factories, though fully aware of the precarious condition of the rubber industry, refused to attend. That it was possible to form in Austria, a few months since, a *kartell* of rubber goods manufacturers, is owing to the fact that in Austria only eight rubber factories exist. Nevertheless the German manufacturers, in dealing with the patrons of the *kartell*, undersell the latter.

The condition of the German rubber goods factories, especially of those who are financially weak, has become almost unbearable, and will improve only if, by some means now unforeseen, the ring of the English rubber dealers could be broken, or, if through force of conditions the several factories, without combining, would advance their prices. Besides this, the Berlin factories are facing a strike, so that likely they will have to figure with troublesome wage conditions.

This summary gives our readers no new information, but only the identical arguments which we, for years, have advanced as being essential to the development of the German rubber industry. The only thing new is the assertion that the crude rubber prices are fixed and held up solely by the Liverpool dealers, to which we cannot unconditionally agree. That speculation acts a certain part—and in what raw product, nowadays, does it not—is without doubt, but it does not act the dominant part. Speculation certainly could not maintain prices lastingly at such enormous heights, without other favoring conditions. These conditions include the indisputable fact that the receipts of Pará rubber have not increased within the past few years, but remained almost without change, while the demand, aided by the automobile industry, has increased enormously. The best proof of this is that it is impossible

anywhere to store up large quantities, and in no market, Liverpool included, are there larger supplies than in former years; on the contrary, they are materially less.

But this (the assembling of large stocks) would be a natural consequence if the prices were forced up by juggling. Furthermore, the selling prices at Pará, and the prices at London, Hamburg, New York, and Antwerp, which always correspond with those of Liverpool, prove that it is the unfavorable conditions existing in supply and demand of good rubber sorts, which regulate the price. The rise in prices of inferior sorts, which, comparatively, even exceed those of Pará, is still further proof for this assertion. We are crediting the Liverpool dealers with great influence, but that they are enabled to rule all the rubber markets of the world and solely and alone fix prices, is beyond our belief.

It may be possible that the speculators can force the prices up a few pence beyond what actual conditions warrant, but to maintain artificially for years such an enormous advance, in all rubber sorts and in all markets, is impossible; natural conditions, playing an important part in the crude rubber trade, are too weighty for that. Great efforts have been made in times past for this purpose—the New York trust is still in memory—but they have stranded on the fact that the crude rubber market cannot be ruled from one particular point. Though it is desirable to break the "ring of English rubber dealers," it is doubtful that the rubber goods manufacturers would profit thereby for any length of time. The receipts would not be increased thereby and the demand would not stop. Much more could be gained if our industry should succeed in locating new sources of rubber supplies, and our manufacturers should assist all efforts made to cultivate rubber plantations, which is the only means to prevent a scarcity of supply and restore normal price conditions.

Until then, only one remedy is left to our manufacturers for the present difficult situation, and that is a corresponding rise in selling prices. There is no other way, and it must eventually be taken, no matter how difficult it may seem. A factory which to-day does not advance prices sacrifices all its profits and transgresses the principle on which all healthy business is based, that the prices must be in unison with the cost of material and manufacture.

## WAGES IN THE RUBBER SHOE INDUSTRY.

**T**HE July *Bulletin* of the national bureau of labor, at Washington, is devoted to "Wages and Cost of Living," a mass of statistical data being presented, with the indication that the increase in wages which clearly has taken place in many industries since 1890 has, on the average, more than kept pace with the increased cost of living which is proved with only a little less definiteness. The *Bulletin* contains very little data pertaining to the rubber industry. In fact, returns are presented from only two rubber factories (unnamed, of course), and the substance of such returns are condensed in the table below. It should be mentioned that wages given are for a week of 60 hours, and are computed by multiplying the average hourly wage for each class of workers by 60:

WORK.	1893.		1903.	
	Number.	Wages.	Number.	Wages.
a Bootmakers Male.....	34	\$17.86	33	\$21.48
a Cementers Female....	18	7 15	35	8.05
b Cutters M.....	30	16.28	35	15.16
a Grinders M.....	28	9.15	33	8.15
b Mixers M.....	16	9.57	15	9.85
a Shoemakers F.....	132	7.55	185	8.00

a—Data from one establishment.  
b—Data from two establishments.

## INDIA-RUBBER GOODS IN COMMERCE.

AMERICAN exports of rubber goods continue to grow, but not at the same rate recently as imports of foreign manufactures of India-rubber and Gutta-percha. According to the customs returns, values for two years past have been as follows, showing the United States to have become actually less able to supply its own requirements in these goods:

	1902-03.	1903-04.
Value of exports.....	\$4,176,351	\$4,435,590
Value of imports.....	891,170	1,157,042

Excess of exports.....\$3,285,181      \$3,278,548

Considering that the rubber industry, in most of its branches, had its origin in the States, and that no article of manufacture of rubber can be imported without a substantial duty, levied for protective purposes, the question seems to be in order, Why should the Americans be going backward in the manner indicated by the above figures?

## EXPORTS FROM THE UNITED STATES.

THE following is an official statement of values of exports of manufactures of India-rubber and Gutta-percha for six fiscal years, ending June 30:

YEARS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
1903-04.....	\$879,476	\$1,086,364	\$2,469,750	\$4,435,590
1902-03.....	819,985	1,056,491	2,299,875	4,176,351
1901-02.....	634,146	1,046,315	1,781,941	3,462,402
1900-01.....	565,726	724,015	1,727,527	3,017,268
1899-00.....	541,830	420,746	1,405,212	2,367,788
1898-99.....	(a)	260,886	1,504,499	1,765,385

[ (a) Included in "All Other" prior to July 1, 1899.]

The number of pairs of rubber footwear exported during the six years has increased as follows:

1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.
486,586	762,016	1,469,100	2,594,688	2,307,401	2,310,808

Exports of reclaimed rubber amounted in value to \$534,500 for the last fiscal year, as against \$404,586 for the preceding year, and \$362,721 two years ago.

## SHIPMENTS TO NON CONTIGUOUS TERRITORIES.

DESTINATION.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTALS.
<i>Alaska:</i>				
1902-03.....	\$30,278	\$90,050	\$15,654	\$135,982
1903-04.....	37,730	85,367	15,739	138,836
<i>Hawaii:</i>				
1902-03.....	\$29,396	\$ 7,436	\$27,483	\$64,315
1903-04.....	36,761	11,679	32,508	80,948
<i>Porto Rico:</i>				
1902-03.....	\$4,855	\$ 1,386	\$12,445	\$18,686
1903-04.....	9,085	254	16,797	26,136
<i>Philippines:</i>				
1902-03.....	\$20,692	\$ 2,396	\$35,773	\$58,861
1903-04.....	32,835	4,553	36,402	73,790
<i>Totals:</i>				
1902-03.....	\$ 85,221	\$101,268	\$ 91,355	\$277,844
1903-04.....	116,411	101,853	101,446	319,710

## IMPORTS INTO THE UNITED STATES.

	1901-02.	1902-03.	1903-04.
India-rubber goods.....	\$449,756	\$665,972	\$821,562
Gutta-percha goods.....	127,780	225,198	335,480
Total.....	\$577,536	\$891,170	\$1,157,042
Reexports.....	13,173	8,656	4,704
Net Imports.....	\$564,363	\$882,514	\$1,152,338

American imports of rubber goods were treated at length in the issue of this Journal for March 1, 1904 (page 204).

## AUSTRIA-HUNGARY—OFFICIAL RETURNS.

THE customs returns for January-June, 1904, permit the following comparison to be made of the value of imports and exports of rubber goods for the first six months of four years past, values being converted into United States money:

	1901.	1902.	1903.	1904.
Imports.....	\$692,390	\$643,287	\$734,823	\$ 800,514
Exports.....	765,789	790,693	977,250	1,270,250

It will be seen that the exports, already larger than imports in 1901, have grown more rapidly in the succeeding years. No special line of imports can be mentioned as having shown a steady increase in values. But there has been a marked increase in values of exports of hard rubber goods, shoe elastics, rubber footwear, and some other lines.

EXPORTS OF RUBBER FOOTWEAR, BY WEIGHT.  
[First Six Months of Three Years.]

To—	1902.	1903.	1904.
Germany.....	kilos 70,600	49,100	70,400
France.....	19,700	24,800	10,900
Great Britain.....	17,600	31,000	42,400
Turkey.....	3,300	7,400	29,700
British East India.....	27,900	72,100	78,900
Egypt.....	1,200	3,900	6,200
Other lands.....	28,200	19,700	22,200
Total.....	168,500	208,000	260,700
Value.....	\$136,822	\$168,896	\$211,688

## EXPORTS OF HARD RUBBER GOODS, BY WEIGHT.

To—	1902.	1903.	1904.
France.....	kilos 19,200	31,200	28,100
Germany.....	11,800	17,000	27,500
Great Britain.....	19,100	39,700	21,300
Hamburg free port.....	17,500	16,700	36,500
Turkey.....	1,300	8,100	30,400
Switzerland.....	8,100	8,800	16,000
Other lands.....	31,700	35,000	36,400
Total.....	108,700	156,500	196,200
Value.....	\$176,547	\$254,156	\$318,629

## VALUES OF EXPORTS OF ELASTIC FABRICS.

	1902.	1903.	1904.
Shoe elastics.....	\$ 85,588	\$ 81,484	\$108,402
Other goods.....	115,826	121,922	112,320
Total.....	\$201,384	\$203,406	\$220,722

## RUBBER NEWS FROM COLORADO.

THE American Crude Rubber Co. (Colorado Springs, Colorado), according to the *Denver Republican*, announce that no less than ten factories will be operating within 18 months, extracting rubber from the native rubber shrub, with a daily capacity of 2000 pounds each. The cost of such rubber is estimated at 30 cents per pound and the selling price at 90 cents, promising a daily profit from the ten factories of \$12,000. One factory is reported to be already in course of erection at Buena Vista, Colorado, where the company have a franchise to erect also an electric plant and street railway. A show window on a Denver street has contained lately a number of specimens of rubber in the form of boot heels and other molded goods, made from the product of the company named above.

The Colorado Rubber and Improvement Co. was mentioned in this paper last month as having been organized by citizens of Columbia City, Indiana, to operate at Buena Vista, Colorado. The *Columbia City Mail* reports that the work of the new company has been stopped, on account of the rivalry of the two Colorado companies already in the field, each claiming a monopoly of working the rubber shrub, under patents. The *Indiana paper* says: "The Columbia City gentlemen who are interested in the concern believe that there is lots of profit in the enterprise, and they are strengthened in the belief by the fight the other companies are making for a monopoly."

## EUREKA FIRE HOSE CO. AT THE WORLD'S FAIR.

THE exhibit made by the Eureka Fire Hose Co. (New York) at the St. Louis exposition is a very attractive one, and will well repay a visit to Machinery Hall, where it is located in Aisle A, Section 28. The exhibit consists primarily of a series of handsomely polished oak cases, 7 feet high, mounted upon a raised platform of the same material, 25 feet long and 12 feet deep.

A flight of three steps leads up to a large central case, on top of which is a square platform supported by a number of 30" Underwriters play pipes. On this platform is placed a large coil of the company's brands of fire hose—"Eureka," "Paragon," and "Red Cross"—the whole surmounted by an immense golden eagle, representing the widely known trademark of the Eureka company. The entire height of the exhibit is 20 feet or more.

The cases, five in number, are arranged to show all the various products manufactured by the Eureka Fire Hose Co., at their factory at Jersey City, and include a complete line of fire hose, mill hose, jacket hose, steam hose, refining hose, garden hose, etc., of which they are the largest manufacturers in the world.

On top of the three central cases is an assortment of brass work that is especially attractive, consisting of Underwriter play pipes in the center of each, with play pipes of graduated sizes on either side. Above one of the side cases are shown expanding rings from 6" to 1" diameter and on another is an exhibit of spanners, wrenches, and the like, all made of solid brass. At one side of the platform is placed an interesting assortment of couplings arranging from 6" to 1" diameter, and on the other side, various other makes of couplings of 2 1/4" diameter manufactured by the Eureka company.

A feature of the exhibit is a tree 25 feet in height, the trunk and branches of which are covered entirely with Eureka hose, ranging from 6" water boat fire hose down to 3/8" garden hose. Another part of the display which attracts considerable attention is a huge spear shaped standard 30 feet high, covered with hydraulic mining hose rubber lined and unlined, arranged in sizes from 12" to 5"; also 7" to 3/8" linen hose and razor strap fabrics, fire hose from 6" water boat fire hose to 1" chemical engine hose, mill hose, hydraulic hose, and

electric covering. This feature of the exhibit shows about two hundred 4" samples of fabrics manufactured by the Eureka Fire Hose Co., which are regularly carried in stock or made to order.

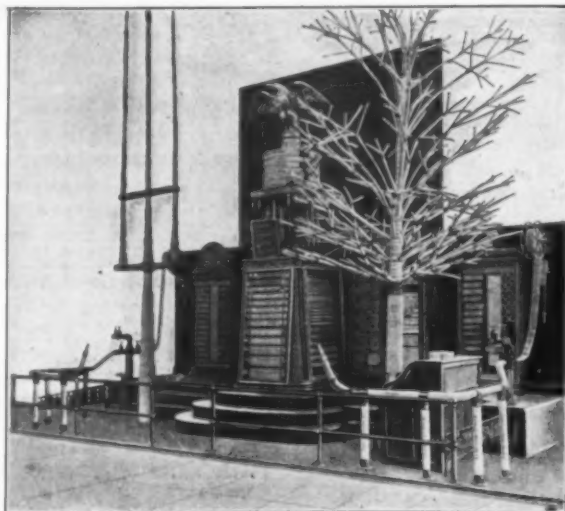
In one of the cases before mentioned is a section of the first seamless circular woven multiple fire hose ever made, and which was woven in 1875 by Mr. B. L. Stowe, now vice president of the Eureka company. There is also a piece of the first circular woven multiple fire hose rubber lined, which was made in 1875, and the rubber in which apparently is yet in good condition. There are also samples in the same case of seamless canvas hose from 12" to 5" in diameter.

The entire exhibit is encircled by an unique railing made of fire hose, arranged to leave an opening in front at the center, where the hose terminates with Eureka play pipes. This railing starts at the back of the exhibit from either side leading from iron standards, one of which supports a hose reel and the other a hose rack of the latest design.

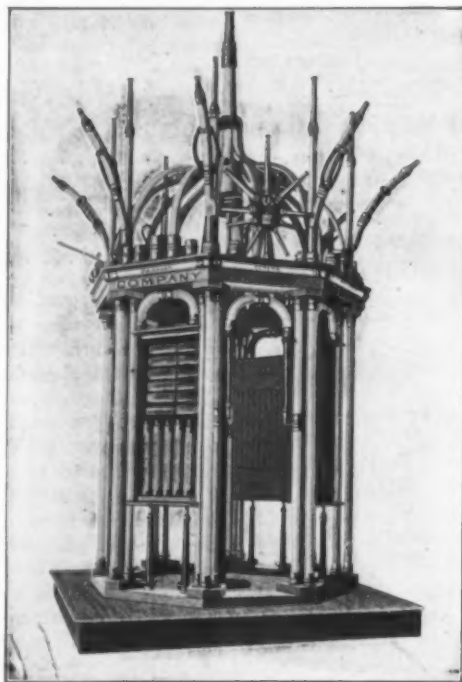
Altogether the exhibit is even more attractive than the splendid displays made by the same company at the Paris and Buffalo expositions, at which they were awarded gold medals.

\* \* \*

THE Eureka Fire Hose Co. have a secondary display in Chief Hale's Fire Fighting Exposition at the St. Louis fair. It consists of a large and attractively designed pagoda, standing more than 20 feet high. Four of the eight sides are utilized for doors or entrances, in the shape of arches formed with sections of Eureka hose, while the alternate arches are occupied by cases showing samples of Eureka fire hose and other products. The roof, which is formed almost entirely of play pipes, is most ingenious in its construction and shows a dome surmounted by a play pipe of large proportions. The exhibit is built up in its various sections, of pipe couplings and other fire department materials, manufactured by the Eureka company.



EUREKA FIRE HOSE CO.'S EXHIBIT.



IN THE FIRE FIGHTING EXHIBITION.

At the annual meeting of the American Chicle Co., in Jersey City, the president reported that during the year ended June 30 dividends had been paid amounting to \$900,000, and \$211,000 added to the surplus, which amounts now to \$988,000. The capital is \$3,000,000 preferred and \$6,000,000 common.



## CHICAGO POLICE INVEST IN RUBBER.

THE most novel undertaking in rubber culture yet reported is that of The Police and Firemen's Mexican Plantation Co., of Chicago, incorporated under the laws of South Dakota, May 7, 1904, with a capitalization of \$1,853,000.99. The company have acquired 6177 acres of land, in a tract nearly square, lying on both sides of the Tulija river, in the department of Palenque, state of Chiapas, Mexico, near the properties of Orizaba Rubber Plantation Co. (Chicago), and of several other similar enterprises. While the membership of the new company is comprised mainly of the police and firemen of Chicago, it is understood that the mail carriers and postal clerks in that city will also become interested, and outsiders will not be deprived of an opportunity to invest. Each class of investors, however, will form a distinct section in the organization, and thus far the Police Section has been most thoroughly developed. It was among the police, by the way, that the undertaking had its start.

In the first place, there was organized in Chicago, in 1901, a Policemen's Protective Association, which came to have a membership of 2000, though its existence was opposed by the city authorities. The attempts to disrupt the organization finally led to proceedings in the courts, where, on the final appeal, it was decided that the police of the city could not maintain an organization for self protection unless there were property rights involved. This suggested to the force the investment of their fund in real property, with the result that they were advised by persons interested in rubber planting in Mexico to look in that direction. The old policemen's association ceased to exist on June 29, 1903, and a call was issued for investors in what has become the rubber planting company named above. The firemen were invited to join, and immediate responses were had from 2100 policemen and 962 firemen.

The new company have issued a prospectus similar to those of other rubber planting companies, shares being issued to be paid for on the installment plan, as in the other companies, and arrangements have been made to establish and conduct a plantation on business lines, with a view to making it a source of profit. An official of the company informs THE INDIA RUBBER WORLD: "The personnel of the board of directors are business men of the highest type and men of confidence, thus assuring the stockholders that the administration of affairs will be conducted to the best of their ability." The officers are: Thomas J. Dawson, president; Arthur F. Selleck, D. D. S., vice presi-

dent; John S. Kane, secretary; John Powers, treasurer; Thomas L. Foley, counsel. These are business and professional men, and not connected with the public service. The chairman of the Police Section is Thomas C. Kane and the secretary Frank J. Sullivan. The company have offices in the Hartford building, Chicago, of which the *American*, of that city, says: "They have been fitted up to serve as a club for the shareholders, and hundreds take advantage of them. One of the objects of the organization is the promotion of mutual good fellowship."

From the "By-laws and Rules of Order of the Police Section of the Police and Firemen's Mexican Plantation Co." one might infer that all the objects of the old policemen's association may be as well carried out under the new as under the old régime. In this connection may be mentioned a publication in the *Chicago Inter Ocean* of August 5, which intimates that charges of insubordination may be made against members of the police and fire departments for maintaining an organization in spite of the prohibition by the city authorities. The fire chief was reported as saying: "We can't refuse to let a man invest his money, but the moment it can be shown that it tends to insubordination in the department, it should be squelched."

APSLEY RUBBER CO.  
AT ST. LOUIS.

THE Apsley Rubber Co. (Hudson, Massachusetts) have a creditable display of their boot and shoe products at the St. Louis World's Fair, in Block 19 A, East, just south of the court dividing the two big wings of the Palace of Manufactures. The exhibit is comprised in an octagonal case of mahogany finish and plate glass. Handsome bevel edged plate-glass signs appear in all the eight windows, bearing the name of the Apsley Rubber Co., the tricolored "Dry Shod" trade-mark of the company, and the names of



APSLEY RUBBER CO.'S EXHIBIT AT THE WORLD'S FAIR.

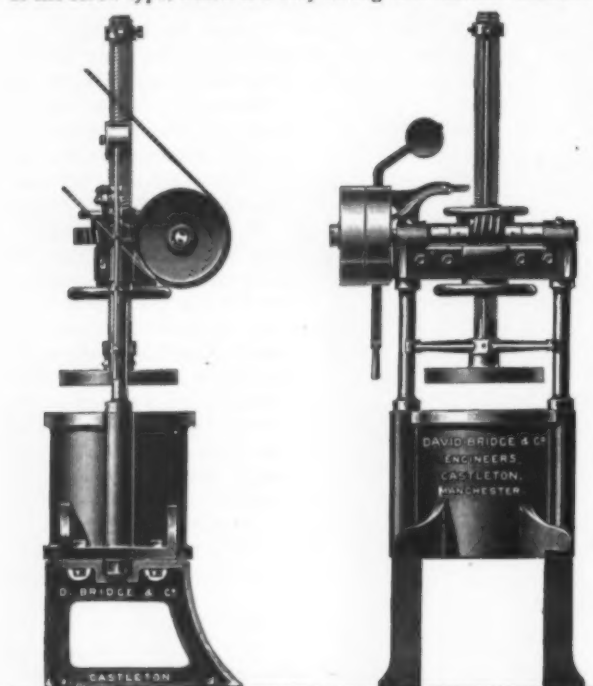
their Western agents—M. D. Wells & Co., Chicago. A pyramidal display fixture occupies the center of this showcase, upon which are hung in an attractive way samples of every line of rubber shoes made by the Apsley company; while surrounding this, and on the floor of the showcase, are samples of the boots and arctics made by the company. The specialties peculiar to the Apsley factory are marked and labeled, and show off most effectively in the display. For instance, the Apsley "Washstand" boot is prominently placed, and attention directed to the details of its manufacture and the uses for which it is particularly designed. Similar treatment is accorded to other leading specialties of the company.

## RUBBER FACTORY APPLIANCES.

## TWO ENGLISH SOLUTION STRAINERS.

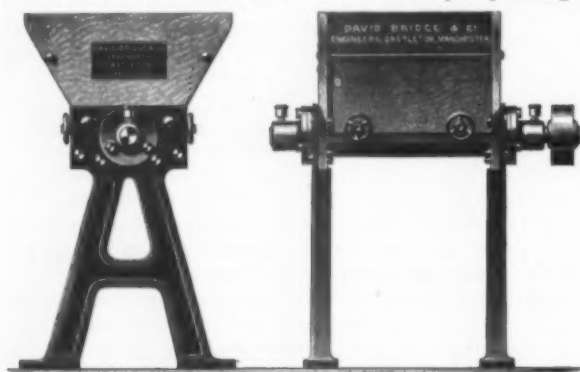
THE illustrations presented on this page relate to certain devices used in the manufacture of waterproof goods in Great Britain, which will appear novel to many of our American readers.

In the first place are shown two views of a solution strainer of the screw type, which is a very strong and efficient machine



SOLUTION STRAINER—SCREW TYPE.

for its purpose. It consists of a truly bored castiron cylinder about 16 inches in diameter and 18 inches deep, with a removable finely perforated bottom, mounted on strong standards of sufficient height to admit a can or tank beneath the cylinder. Over this perforated plate, fine removable copper gauze discs are fitted. After the cylinder has been charged, pressure is brought to bear upon it by a well fitting plunger, fitted upon the end of a powerful screw brought down by means of the worm and worm wheel, countershaft, and belt pulley arrange-



SIMPLE SOLUTION STRAINER.

ment. The machine is fitted with very strong crosshead, pillars, guide for screw worm and worm wheel, shaft, fast and loose pulley, and automatic belt shifting arrangement, all so arranged that when the plunger has reached the bottom, undue strain will not be brought to bear on the bottom plate. An arrangement by which the plunger is quickly lifted by means of hand wheel is provided, ready for cleaning and recharging.

The succeeding views relate to a simple solution strainer. This consists of a single roller fixed in the bottom of a wood hopper, against which adjustable slides, fitted with leather strips, press. The rollers are mounted on strong castiron standards, and driven by a belt pulley, suitable arrangements being made to prevent the oil used for lubrication of the bearings from getting inside the hopper. The machine is sufficiently high to admit of a good sized tin being placed underneath the roll, and drip guides (not shown in the illustrations) are supplied with the machine. [David Bridge & Co., Castleton Iron Works, Castleton, Manchester, England.]

## THE PRICE OF RUBBER SHARES.

FROM "THE NEW YORK TIMES," AUGUST 14.

TO THE EDITOR OF THE NEW YORK TIMES: Will you please inform me through the columns of *The Times* why United States Rubber stocks are selling at 19¼ for the common and at 74 to 75 for the preferred, while United States Leather common sells at 7¼ and the preferred at 83? Is not the Leather stock as good as the Rubber? Why the difference in price?

New York, Aug. 9, 1904.

J. C. W.

A PART from other considerations affecting the relative values of the common and preferred stocks of the United States Rubber Co. and those of the United States Leather Co., a satisfactory explanation of the much lower price quoted for Leather common lies in the fact that there are back dividends due on the company's preferred stock to the extent of about 40 per cent., whereas the preferred stock of the United States Rubber Co. is noncumulative, so that the suspension of dividends on Rubber preferred, which lasted from 1901 to this year, when dividends were resumed, did not result in a fixed charge on the company's earnings. No dividend can be paid on Leather common until the 40 per cent overdue dividends have been paid on the preferred stock of the company, whereas a dividend on Rubber common could be declared at any time after provision had been made for the annual dividend of 8 per cent. on the preferred.

## NOT PLEASED WITH CONSUL CONLEY.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am very much delighted with the position of your magazine with reference to rubber culture in Mexico. It seems to me that the legitimate rubber companies ought to combine and request of President Roosevelt that he appoint some one to take the place of Consul Conley.

Again thanking you for the interest you are taking in this great enterprise, I am, Very sincerely yours,

C. A. WESTENBERG.

[Managing Director Chilas Rubber Plantation Co.]

San Francisco, August 8, 1904.

THE American Rubber Co. filed incorporation papers at Santa Fé, New Mexico, on June 16, with \$200,000 capital named. The headquarters are at Tucumcari, Quay county, N. M. The object is to extract rubber from shrubs which are reported to exist in New Mexico, as well as in Colorado and Utah.

## NEW GOODS AND SPECIALTIES IN RUBBER.

## "MONARCH" MASSAGE BATH SPRAY.

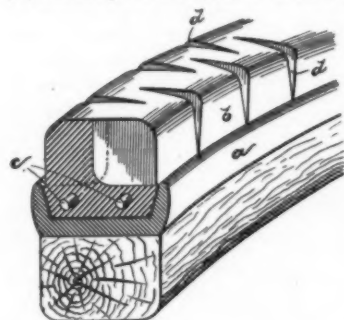
THE "Monarch" massage bath spray is so constructed that it can be used as a brush and spray at the same time and attached to any faucet. The brush consists of soft rubber bristles. At the base of each bristle is a small hole which allows the water to flow past them, making a spray, the force of which can be regulated by the pressure of water. By using this spray, one may begin taking a bath just as soon as the water is turned on.



It is unnecessary to have any water in the tub, and thereby a great deal of time is saved. This is essentially a sanitary bath spray, owing to the fact that the brush and spray can be easily detached from the metal back, thoroughly cleaned, and replaced. It is excellent to use for shampooing, as it massages the head and rinses the hair. The rubber brush being of a soft velvety nature, does not scratch the skin, as is the case with bristle brushes, but is more cleansing. It merely causes the blood to circulate freely, creates a glow, and puts the pores of the body in a natural and healthy condition. The spray is supplied with connections for single or double faucets. United States patent No. 757,791, issued to V. C. Vant Woud. [The Vant Woud Rubber Co., Nos. 88-90 Reade street, New York.]

## A NOVEL SOLID RUBBER TIRE.

A VEHICLE tire protected by United States patent No. 763,909, issued June 28, 1904, to Alvaro S. Krotz, Springfield, Ohio,

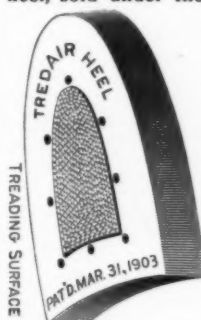


consists of a continuous band of rubber, preferably held in the channel by longitudinal retaining wires, the novel feature of the invention being a series of cavities or pockets cut in the tread, all of which is sufficiently illustrated in the drawing herewith. The inventor finds that tires formed of a continuous tread have a tendency when loaded to crowd over the sides of the retaining channel, and, when the wheel is under action, to creep in the channel; or else the longitudinal movement of the rubber will be transmitted to the base, loosening it, or tending to separate the base from the tread. The object of the pockets, in this invention, is to provide places into which the rubber can flow, and to break up the longitudinal movement, so as to keep it away from the base and its fastenings and retaining channel. The inventor says: "It has been found in practice that in well known sectional tires the sections individually are not able to withstand the extreme torsional strains. With my improved tire there are no sections as such, but the parts are interconnected, thus adding to their resisting power without destroying their individuality and resiliency, and provid-

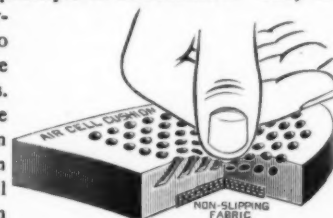
ing an even tread surface." While the form of cavity shown in the illustration is V shaped, or sharp at their base, they may also be formed in U shape; they may also be arranged opposite each other, instead of alternating. Besides, the invention may be adapted to rubber tires of other sections than that shown herewith, and formed to be adapted to other channels or other means of retaining the rubber to its seat.

## "TRED-AIR" HEELS AND HEEL CUSHIONS.

THE first of the illustrations herewith relates to a new rubber heel, sold under the name "Tred-Air," which possesses two distinctly novel features—a treading

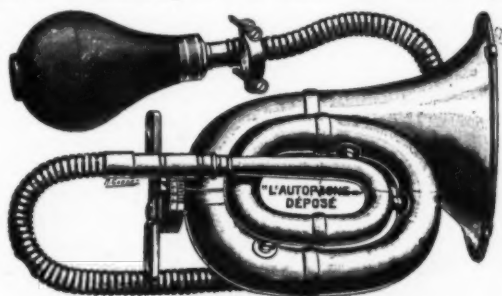


surface of non slipping fabric, and an air cell construction for the body of the heel, which renders the whole lighter in weight and more springy than solid rubber heels. These heels are referred to as possessing the same advantage over those previously in use that the pneumatic tire possesses over solid tires, with respect to resiliency, though the cost is not greater than the old style heels.—A second novelty introduced by the same firm is the "Tred-Air" heel cushion, to be worn inside the shoe. This also involves the air cell principle of construction. They are commended to those persons, among others, who object to the appearance of rubber heels on shoes. Other advantages of the heel cushion are that it can be adjusted to the shoe in an instant; that it will wear indefinitely, and can be changed from one shoe to another; and that it increases the height of the wearer and gives an arched instep. This cushion has been recommended by physicians, chiropodists, and other specialists. [Tredair Rubber Co., Boston, Mass.]



## THE "AUTOPHONE" HORN.

ONE of the latest novelties for the motorist is a horn of French production, described as an "Autophone." A feature of its construction is the double turn in the tube, or metal part, of the horn between the reed and the opening, as shown in the illustration. There is thus produced a much greater volume of sound than the horn of a single turn of pipe. This is not at all objectionable, however, as is thus explained: "The mere vibrating of the reed makes but a squeaky





noise, but the great resounding qualities of the metal, together with the peculiar shape of the horn, changes this sound to a deep mellow tone, which will penetrate the atmosphere for quite a distance. The tone is peculiar to itself, and can be distinguished from that of any other horn." Besides, the horn is provided with a special device for attaching it to the dashboard, and is equipped with a flexible metallic tube which is made airtight with rubber packing. On the end of the latter there is a large rubber bulb which, when compressed, forces the air out of the metallic tube, bringing it in contact with the reed, thus causing the sound. [Imported by Emil Grossman, No. 298 Broadway, New York.]

#### THE "N. I. R." AUTOMOBILE PAIL.

As a result of much experimenting a new automobile pail has been placed upon the market which combines many desirable features. This pail



PAIL  
FOLDED.

is made of rubber, folds up into compact space, taking practically no room, is light, appears to be very durable, and is convenient, as it can be operated with one hand. It can be used either for water or gasoline. It can be used like an ordinary pail, having a snout and a strainer at the top, or



PAIL  
OPEN.

it can be used automatically. As the bottom of the pail comes to a point it can be lowered inside the inlet to tank. There is an automatic valve that catches on the side of the inlet and opens the pail, letting out the contents. The raising of the pail closes this valve and the flow stops. Automobileists speak very highly of it. [National India Rubber Co., Bristol, Rhode Island.]

#### SILK LINED SEAMLESS RUBBER GLOVE.

THIS glove, designed primarily for use in surgical operations, in consequence of having fingers reinforced with silk, has greater durability, and while in use is less apt to be damaged by the instruments, than unlined gloves. The silk lining makes it possible to wear these gloves for a longer time, as it prevents trouble from perspiration of the hands, which is very objectionable when the skin comes into direct contact with rubber. The lining keeps the skin of the hands in excellent condition, which makes these gloves especially valuable to those operating surgeons whose skin shows a tendency to be affected by eczema. The fingers of these gloves are left half unlined in order not to lessen the acute sensitivity of the surgeon's touch. The gloves, notwithstanding their silk lining, are pliant and supple, and cling to the hands as closely as unlined gloves, the palms and backs only being covered with silk material, while the other places are left free and therefore retain their elasticity. This is the invention of Professor Dr. Zweifel, and is the subject of a recent German patent—D. R. G. M. 219,391. [Phil. Penin Gummiwaaren-Fabrik, Actiengesellschaft, Leipzig-Plagwitz, Germany.]



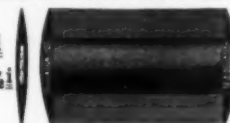
#### NEW REPAIR TAPE FOR MOTOR TIRES.

A NEW article of tire repair tape is made of specially woven duck and the best yellow rubber friction. The use of this tape is a very simple matter. The outfit includes square rubber patches. These patches can be moistened in gasoline or naphtha, placed on the puncture, the tape wound around the tire and rim and pulled taut, and then the tape is slit for about 18 inches and tied tight. This tape is made in two widths: 2 inches wide for large machines and narrower for runabouts. [National India Rubber Co., Bristol, Rhode Island.]



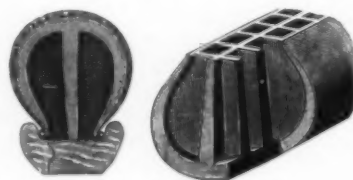
#### MORE ABOUT THE HOLLOW BACKED COMBS.

In the description given in this department last month of the "Revelation" line of hard rubber combs, mention was omitted of the method by which their distinctive feature is given to these combs. It appears that the combs are made in halves, the two sections being actual thickness  $\frac{1}{2}$  inch, then joined together. To width  $2\frac{1}{2}$  inches. To make the dies so accurate that the two parts of a comb can be adjusted to each other so that the tooth halves will fit together perfectly is certainly a delicate and ingenious bit of work. Even fine tooth combs are made by this method, as shown in the illustration herewith, which relates to a comb 4 inches in length—No. 150 in the manufacturers' list. [Harburg Rubber Comb Co.—Schrader & Ehlers, United States agents, New York.]



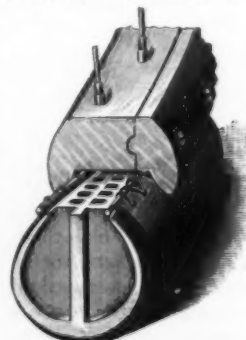
#### MILLER'S RESILIENT TIRE CORE.

THE tire core herewith illustrated is intended to be slipped into the outer cover of a detachable pneumatic tire, instead of



an air tube, or it may be placed within a single tube tire. If there should be punctures in the outer cover they will not interfere in any way, as the core supplies the resiliency; the casing is for wear,

and not to hold air. The interior of the core is divided into cells by diaphragms spaced quite closely, the spaces between them being divided through the center by partitions extending from the rim to the tread. The elasticity of the rubber, both under compression and tension, is thus taken advantage of, and, as there is no air pressure, punctures have no effect on the tire, which is said to be perfectly proof against breaking down. This core has been applied thus far principally to the detachable tire casings of the Fisk and Goodyear tires. [Charles Miller, No. 309 North Water street, Binghamton, New York.]





NEW ENGLAND RUBBER CLUB—MIDSUMMER OUTING, JULY 26, 1904.

## RECENT RUBBER PATENTS.

## UNITED STATES OF AMERICA.

ISSUED JULY 5, 1904.

- N**O. 763,996. Vehicle tire. [Solid rubber, having projections, with metal stays, to engage in special form of rim.] C. Motz, Akron, Ohio.
- 764,009. Rubber tire. [Solid rubber, with retaining ring molded in its base.] E. S. Roberts, New York city.
- 764,018. Hose pipe coupling. C. A. Storz, Frankfort-on-Main, Germany.
- 764,091. Vehicle tire. [Solid rubber, base shaped to form flanges to engage in a special rim.] G. W. Whittemore, Cambridge, Mass.
- 764,131. Pneumatic tire valve. J. E. Keller, Jr., Litchfield, Conn.
- 764,132. Detachable flange for rubber tires. [The flange forming part of the wheel rim.] C. W. Kelsey, Philadelphia, Pa.
- 764,140. Vehicle wheel [with rim adapted for use with an elastic tire]. T. Midgley, Columbus, O., assignor to Hartford Rubber Works Co.
- 764,227. Fountain pen. A. Eberstein, Winthrop, Mass., assignor of one half to C. Brandt, Boston.
- 764,270. Vehicle tire. [Pneumatic; with rim having detachable flange.] W. P. Cronin, Boston, assignor to Diamond Rubber Co.
- 764,327. Hose coupling. C. H. Zessin, Homestead, Pa.
- 764,340. Ice creeper for horses [with rubber base]. C. W. Bolton, Fort Chase, Pa.
- 764,395. Hose coupling. F. Sweed and G. L. Farnsworth, Turtlecreek, Pa.
- 764,497. Tire and rim for vehicle wheels. [Solid rubber, special rim, and inflatable tube between them.] J. F. Pease and E. Schumacher, Darlington, England.
- 764,519. Vehicle tire. [Pneumatic; attached to rim by means of detachable flange.] N. Crane, Boston, Mass.

*Trade Mark.*

- 42,942. Rubber and asbestos packing. Ungarische Gummiwaaren-Fabriks A. G., Budapest, Hungary. *Essential feature.*—The word "Tauril." Used since Jan. 3, 1902.

ISSUED JULY 12, 1904.

- 764,598. Manufacture of golf balls. [A resilient core is wound with cured rubber strips under tension, and the whole covered with strips of uncured rubber to form a shell, and vulcanized.] E. Kempshall, Boston, Mass., assignor to J. S. Dunston, Hancock, Mich.
- 764,639. Vehicle tire [pneumatic]. G. H. Sherman, Detroit, Mich.
- 764,652. Fountain pen. P. E. Wirt, Bloomsburg, Pa.
- 764,799. Massage rollers [covered with rubber]. G. M. Dunshee, Roland, Iowa.
- 764,841. Shower bath. J. P. Eustis, Newton, Mass.
- 764,855. Storm shield for carriages. E. S. Lynd, Orleans, Ind.
- 764,881. Hose coupling. L. B. Colin, Johnstown, N. Y.
- 764,936. Pneumatic tire [with detachable cover]. H. G. Fitler, Philadelphia, assignor to The Goodyear Tire and Rubber Co.
- 764,996. Syringe. T. H. Ellis, assignor to J. S. Roseberry, both of New Orleans.
- 765,015. Packing for stuffing boxes. [Asbestos treated with rubber solution, with graphite added.] R. Klinger, Gumpoldskirchen, Austria.
- 765,044. Vehicle wheel rim [for use with elastic tires]. F. A. Seiberling, Akron, Ohio.
- 765,045. Means for attaching [solid] elastic tires to wheels. [Uses longitudinal wires.] H. Sheaf, Wanstead, and H. A. Stonard, Leytonstone, England.
- 765,109. Hose coupling. F. Sticker, assignor of one half to C. A. Drucklieb, both of New York city.
- 765,110. Marking stamp. [Uses metal type, with elastic cushion between type plate and base.] F. Test, Philadelphia.
- 765,145. Ball [for golf]. J. A. Manahan, assignor of one half to S. Bookman, both of New York city.

ISSUED JULY 19, 1904.

- 765,167. Apparatus for treating raw rubber[—i. e., coagulating the latex]. Joao R. C. Danin, Pará, Brazil.
- 765,225. Hose coupling. L. B. Colin, Johnstown, N. Y.
- 765,249. Hose coupling. S. J. McDonald, assignor to W. H. Lewis, both of Detroit, Mich.

- 765,261. Suspensory [embodying an elastic rubber pouch]. W. S. Wise, St. Louis.  
 765,274. Life saving appliance. [A suit to cover the body and having attached inflatable air bags.] J. M. Decker, Chicago.  
 765,290. Tire cover [of undressed leather; for pneumatics]. M. Korth, Cologne-Raderberg, Germany.  
 765,314. Window cleaner. H. A. Hayden, Jersey City, N. J., assignor to Hayden Implement Co., New York city.  
 765,324. Puncture closer [for tires]. R. W. Sampson, Quebec, Canada, assignor of one half to L. Schwab, Newark, N. J.  
 765,472. Hygienic medicated belt [embodying a liquid retainer of rubber]. T. O. Gasaway and J. S. Aydelotte, Marion, Ind.  
 765 485. Hose rack. H. J. M. Howard, Washington, D. C.

ISSUED JULY 26, 1904.

- 765,670. Double tube pneumatic tire. A. H. Marks, assignor to The Diamond Rubber Co., both of Akron, Ohio.  
 765,700. Comb cleaner. [A web of elastic material.] L. Casper, Chicago.  
 765,835. Spring tire. [Solid rubber, with a series of helical springs between the rubber and the felly.] L. Herz, Feucht, Germany.  
 765,973. Rubber compound [made by incorporating georgelite with rubber]. W. F. Hogan, Boston.  
 766,039. Horseshoe. J. E. Hoffman, New York city.  
 766,040. Belt conveyer apparatus. J. B. Humphreys, New York city, assignor to Robins Conveying Belt Co.  
 766,106. Vaginal syringe [having a compressible bulb, and a spout extending integrally therefrom, the spout being elliptical in cross section and reinforced on the inside at the top and sides throughout the length of the spout]. H. T. Foote, New Rochelle, N. Y.  
 766,119. Tire clamp [for attaching solid rubber tires to wheel rim]. P. F. Schaffer, assignor of two thirds to B. Allen, 3d, and J. P. Reilly, Germantown, Philadelphia.

Design.

- 37,057. Sheet rubber fabric. D. B. Martin, New Haven, Conn., assignor to The Falcon Rubber Co.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

## GREAT BRITAIN AND IRELAND.

PATENTS APPLIED FOR—1904.

[\* Denotes Applications from the United States.]

- 13,445. A. Frankau & Co., Ltd., and H. I. Livermore, London. Tobacco pouch. June 14.  
 13,497. C. L. Tweedale, Weston, Yorkshire. Pneumatic socks. June 15.  
 13,558. H. T. Wilkins and G. Denton, London. Elastic heels for boots. June 15.  
 13,583. E. M. Preston and G. E. Jakeman, London. Means for securing hose to couplings. June 15.  
 13,600. A. Bradley, Liverpool. Composition for rubber tires. June 16.  
 13,610. J. A. H. Harper and H. G. Atkinson, Birmingham. Means for inflating motor tires. June 16.  
 13,646. F. D. Lyon and G. W. Brown, Hove, Sussex. Pneumatic tire protector. June 16.  
 13,660. C. W. Pradeau, London. Means of attaching rubber tires to wheels. June 16.  
 13,764. W. S. Cort and W. H. Stevens, London. Protector for pneumatic tires. June 17.  
 13,783. A. von Hasperg, Karlsruhe, Germany. Compartment tire for motor cars. June 18.  
 13,784. Same. Appliance to prevent bursting of air tubes of motor tires. June 18.  
 13,799. W. A. Sankey, Manchester. Rim and tire cover for motor car wheels. June 18.  
 13,799. Same. Pneumatic tire cover. June 18.  
 13,800. Same. Pneumatic tire cover and rubber strips used in manufacture of the same. June 18.  
 13,860. J. Shepherd, London. Cushion tire. June 18.  
 13,383. R. W. Brett, West Bromwich. Rubber heel and sole. June 20.  
 13,891. F. P. Whitehead, London. Fabric for pneumatic tires. June 20.  
 13,929. R. Hodgkins, London. Golf ball and method of manufacture. June 20.

- 13,935. D. Rowe and J. Stobert, London. Tire pump. June 20.  
 13,964. L. S. Dyer, London. Prevention of side slip of motor tires. June 20.  
 13,989. A. Shaw, Burnley. Adjustable heel for boots. June 21.  
 13,995. J. Campbell, Glasgow. Collapsible pneumatic globe. June 21.  
 14,041. A. H. Gale, London. Garden syringe. June 21.  
 14,090. H. M. Appleyard, Liverpool. Pneumatic tire. June 22.  
 14,100. J. M. Broad, Bristol. Prevention of side slip in pneumatic tires. June 22.  
 14,194. F. W. Schroeder and M. Lintine, London. Heel for boots. June 23.  
 14,241. Laura Lechmere, London. Tire for vehicles. June 23.  
 14,251. R. M. Meyer, London. Outer cover for motor tires. (H. Lightband, New Zealand.) June 23.  
 14,259. J. Barker, Oldham. Resilient tire. June 25.  
 14,271. W. Stewart, Birmingham. Heel for boots. June 25.  
 14,275. W. D. Hartridge, London. Anti skidding pneumatic or cushion tire. June 25.  
 14,284. H. J. Bubb and J. H. Cox, Glasgow. Heel for boots. June 25.  
 14,298. H. E. Haynes, London. Resilient tire. June 25.  
 14,316. H. T. Walker and H. W. Peart, London. Elastic tire and rim therefor. (F. Möller, South Australia.) June 25.  
 14,415. J. Birtwistle, Manchester. Pneumatic tire. June 27.  
 14,416. R. Hanna and T. O'Neill, Glasgow. Resilient tire for cycles and vehicles. June 27.  
 14,524. E. J. Davey, London. Metallic gromets for waterproof sheets and the like. June 28.  
 14,589. M. Alcock, Roscarbery, County Cork. Tire repair bands. June 29.  
 14,605. J. G. Patterson, Manchester. Non skidding and puncture preventing devices for vehicle tires. June 29.  
 14,664. A. Ducasle, London. Resilient tire. June 29.  
 14,670. F. W. Schroeder and M. Lintine, London. Heel for boots. June 29.  
 14,673. C. E. Heys, Burnley. Pneumatic tire and protective device therefor. June 30.  
 14,687. H. Markus and The Barnwell Machine Co., Ltd., Manchester. Heel for boots. June 30.  
 14,701. R. R. L. Morgan, London. Golf ball. June 30.  
 14,725. H. E. Woodington, London. Pneumatic tire for vehicles. June 30.  
 14,749. W. T. Thompson, London. Armoured pneumatic tire. (J. T. Le Grande, France.) June 30.  
 14,760. L. Johnstone, London. Pneumatic or cushion tire for vehicles. June 30.  
 14,818. J. D. Robinson, Belfast. Automatic inflator for tires. July 1.  
 14,820. J. A. Thümling, London. Elastic tire. July 1.  
 14,905. J. Pullman, London. Improvement in motor tire. July 2.  
 14,956. Baron B. D. d'Alessandro, London. Swimming or life belt. July 4.  
 14,965. A. Beaujon, London. Anti skidding cover for tires. July 4.  
 15,031. Rose Basch and S. Basch, London. Elastic tire. July 5.  
 15,064. B. E. Hall, Liverpool. Vaginal syringe. July 5.  
 15,113. F. Trestwich, Lytham. Boot heel protector. July 6.  
 15,116. W. M. Edwards, London. Anti skidding device for motor tires. July 6.  
 15,119. A. G. Pictum, London. Twin tire and safety wheel for motor cars, to prevent accidents from puncture. July 6.  
 15,251. J. T. South, Brighton. Rubber tire protector. July 8.  
 15,263. C. Nield and two others, Southport. Detachable rubber ring for umbrellas. July 8.  
 15,280. C. Joly and R. Bougher, London. Pneumatic tire. July 8.  
 15,299. E. E. Michelin, London. Inflating valve for tires. July 8.  
 15,402. R. S. Wood, Manchester. Pneumatic tire for cycles and vehicles. July 11.  
 15,436. A. Kittel, London. Regeneration of vulcanized rubber waste. July 11.  
 15,518. A. Willis, London. Tread for wheel tires. July 12.  
 15,555. E. P. Philpots, London. Pneumatic tire for motors. July 12.  
 15,613. E. N. Lawley, London. Skid and puncture preventor. July 13.  
 15,621. M. Sluce, London. Pneumatic rubber heel specially treated chemically. July 13.



- 15,622. G. S. Ogilvie, London. Tire. July 13.  
 15,653. W. Howes, London. Improvement relating to the inflation of pneumatic tires. July 14.  
 15,660. G. Morton, Manchester. Revolving heel pad. July 14.  
 15,715. H. T. Pearce, Gloucester. Method of fastening rubber frogs to horseshoes. July 15.  
 15,765. J. N. Rice, London. Pneumatic tire. July 15.  
 15,782. A. B. Williamson, London. Sole and heel pad. July 15.  
 15,823. W. O. Chisholm, Glasgow. Waterproof collar and cuff. July 16.  
 15,836. G. L. Scott, Manchester. Heel pad. July 16.

## PATENTS GRANTED.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 29, 1904.]

- 4,788 (1903). Pneumatic tire [with one or more reserve inner tubes]. H. Coyle, West, Renfrewshire.  
 4,793 (1903). Pneumatic hoofpad. J. Singleton, Manchester.  
 \*4,910 (1903). Self inking pad for rubber stamps. E. H. Smith, Ocean City, New Jersey.  
 \*4,913 (1903). Pneumatic carpet cleaning device. J. S. Thurman, St. Louis, Missouri.  
 \*4,949 (1903). Golf club [with head rendered elastic by a rubber cushion behind the striking plate]. M. R. Swift, Vermont, United States.  
 5,120 (1903). Vehicle wheel [rendered resilient by a rubber band interposed between it and the tire]. T. Gare, New Brighton.  
 5,163 (1903). Pneumatic tire. L. Peter, Frankfurt-on-Main, Germany.  
 5,174 (1903). Hose coupling. W. M. Treglown, London.  
 5,390 (1903). Nipple for feeding bottle. G. Reines, London.  
 5,412 (1903). Heel for boots. D. A. Berry, Northampton.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 6, 1904.]

- \*5,437 (1903). Washing and wringing machine. J. B. Rentzel, Manchester, Pennsylvania.  
 \*5,486 (1903). Bottle stopper. G. C. Marks, London. (Crown Cork and Seal Co., Baltimore, Maryland.)  
 5,515 (1903). Apparatus for vulcanizing rubber goods [in long lengths]. H. Grimshaw, Clayton, Manchester.  
 \*5,651 (1903). Vaginal syringe. E. C. Ashmead, Philadelphia, Pennsylvania.  
 5,827 (1903). Rubber handle for cricket bat. C. A. Beldam, London.  
 5,882 (1903). Cushion tire for vehicles. J. Hickling, Stalybridge, Cheshire.  
 6,074 (1903). Pneumatic tire. J. M. MacLulich, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 13, 1904.]

- \*6,187 (1903). Pneumatic wheel [having rubber cushion between the hub and the tire portions]. H. H. Lake, London. (A. E. Martinsen, New York.)  
 6,203 (1903). Respirator for prevention of drowning. [Illustrated in THE INDIA RUBBER WORLD, March 1, 1904—page 207]. J. A. Strenken, Bremen, Germany, and another.  
 6,233 (1903). Pneumatic tire. E. H. Seddon, Hooklands, Cheshire.  
 6,259 (1903). Boot heel protector. J. E. Atkinson, Birmingham.  
 6,332 (1903). Mold for golf balls [with means for centering the core]. C. A. F. H. Gregson and J. Hughes, Hunstanton, Norfolk.  
 6,371 (1903). Nipple for feeding bottle. B. Levi, Hildesheim, Germany.  
 6,431 (1903). Pneumatic pad [for harness and saddlery, beds, pillows, and surgical appliances]. E. M. Aulton, Wolverhampton.  
 6,440 (1903). Hose coupling. C. A. Richardson, Scholar Green, Cheshire.  
 6,503 (1903). Pneumatic tire [with means for the automatic repair of the inner tube in case of puncture]. G. A. Steinberg, Paris, France.  
 6,520 (1903). Waterproof garments for motoring. J. H. Anderson and Anderson, Anderson & Anderson, London.  
 \*6,522 (1903). Solid rubber tire [with continuous narrow central tread portion and lateral extensions alternately arranged on opposite sides of the central portion]. W. O. Worth, Chicago, Illinois.  
 6,567 (1903). Fountain pen. A. Vale, Handsworth, Staffordshire.  
 \*6,705 (1903). Golf ball [having a core of paper, wound with rubber under tension]. K. V. Painter, Cleveland, Ohio.  
 \*6,706 (1903). Golf ball [composed of spongy rubber compressed in a Gutta-percha shell]. Same.  
 \*6,707 (1903). Golf ball [composed of spongy rubber about which rubber strips are wound under tension, and an outer shell applied]. Same.

- 6,781 (1903). Inner tube for pneumatic tires. A. J. Fearnley and J. B. Forster, Newcastle-on-Tyne.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 30, 1904.]

- \*6,803 (1903). Vehicle tire [consisting of a rubber core wrapped with canvas and provided with stiffening ribs, the whole being enclosed in a rubber cover and vulcanized]. G. H. Raflovich, Boston, Massachusetts.  
 \*7,162 (1903). Means for inflating footballs. W. S. Jacobs, Malden, and W. E. Waterman, Boston, Massachusetts.  
 7,270 (1903). Vehicle tire [formed by a metal spring strip, combined with a rubber tread]. F. Pawel, Hanover, Germany.  
 7,285 (1903). Infants napkin. M. Laue, Halle, Germany.  
 7,491 (1903). Pneumatic tire [with outer cover of leather, waterproofed with a solution of rubber]. P. Magnus, Collingwood, Victoria, Australia.  
 \*7,521 (1903). Golf ball. A. R. Spear, St. Paul, Minnesota.

## GERMAN EMPIRE.

## PATENTS GRANTED.

- 154,092 (Class 30b). Dental plate. Rosa Bauer, Cologne, July 6.  
 DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER].  
 226,984 (Class 30d). Elastic lacing appliance for obesity. Jeanne Daine, Paris. June 29.  
 226,850 (Cl. 30g). Hard rubber valve for seamless nipple for feeding bottle. Actiengesellschaft Metzeler & Co., Munich. June 29.  
 227,497 (Cl. 47f). Pump valve with a metallic insertion. Otto Arendt, Newark, N. J., United States. July 6.  
 228,135 (Cl. 30d). Body band of elastic and inelastic threads. W. Böttger, Jr., Apolda, and Dr. R. Lehrich, Carlstadt. July 13.  
 228,058 (Cl. 63e). Motor cycle tire, with sharp longitudinal ridges to prevent skidding. Vereinigte Berlin Frankfurter Gummiwaren-Fabriken, Gelnhausen. July 13.  
 228,531 (Cl. 3b). Printed rubber ribbon for use in garments. Les Fils de J. B. Dumas, St. Etienne, France. July 20.

## APPLICATIONS.

- 31,904 (Class 63e). Protecting envelope for motor tires. T. Houben, Verviers, Belgium. July 6.  
 32,883 (Cl. 63d). Elastic wheel hub. M. Hofer, Bern, Switzerland. July 13.  
 18,379 (Cl. 30b). Production of dental plates of rubber with wire insertion. C. E. Foster, Brighton, England, and The Dental Manufacturing Co., Ltd., London. July 20.

## THE FRENCH REPUBLIC.

## PATENTS ISSUED (WITH DATE OF APPLICATION).

- 339,950 (Jan. 27). M. Sartiaux. Detachable anti slipping tire protector.  
 340,036 (Jan. 29). S. Wimpffen. Protective appliance for pneumatic tires.  
 340,080 (Feb. 1). American Hard Rubber Co. Comb.  
 340,085 (Feb. 1). Tredair Rubber Co. Elastic pad for shoe heels.  
 340,092 (Feb. 1). L. Azulay. Pneumatic tire.  
 340,203 (Feb. 5). J. A. Swinehart. Vehicle tire.  
 340,213 (Feb. 6). L. Lessmann and M. Weinkopf. Puncture fluid for tires.  
 340,217 (Feb. 6). P. Corbeau and J. Lave. Anti slipping pneumatic tire.  
 340,361 (Feb. 11). H. Brookes. Protective tape for pneumatic tires.  
 340,434 (Feb. 15). E. Zohlen. Tire cover and process of manufacturing same.  
 340,538 (Feb. 18). C. H. Gray and T. Sloper. Mold for pneumatic or other tires.  
 340,539 (Feb. 18). C. H. Gray and T. Sloper. Improvement in the manufacture of rubber covered wire or tissues.  
 340,561 (Feb. 19). A. Beanjon. Detachable anti slipping appliance for tires.  
 340,562 (Feb. 19). A. de Dion and G. Bouton. Detachable anti slipping appliance for tires.  
 340,616 (Feb. 26). R. Péclet. Use of a metallic tissue to prevent slipping of tires.

[NOTE.—Printed copies of specifications of French patents may be ordered from R. Bobet, consulting engineer, 16, avenue de Villiers, Paris, at 50 cents each, post-paid.]

## RUBBER INTERESTS IN EUROPE.

## THE INDUSTRY DEPRESSED IN PORTUGAL.

THE solitary rubber goods factory in Portugal has not been able of late to make as good a showing as in some former years. The Compagnie du Caoutchouc, Monopole du Portugal, was organized in Belgium, March 5, 1898, with the exclusive privilege of manufacturing rubber goods in Portugal for ten years, with 1,000,000 francs capital. The company was financed by L'Africaine, Banque d'Etudes et d'Enterprises Coloniales, of Brussels, and a factory was erected at Lisbon. At the annual meeting of the shareholders, at Brussels, on July 19, five of those present refrained from voting to approve the balance sheet presented for 1903, and one shareholder moved for the liquidation of the company, urging that the business constantly grew worse. The executive committee, however, thought it wiser to await the results of the current year, and this view prevailed. Part of the company's assets is in shares of la Compagnie du Luabo and le Comptoir Commercial de Benguela, engaged in rubber trading in Africa, the shares of which show a decline. The different securities held by the Compagnie du Caoutchouc are now valued at only 378,688 francs, a decline since 1902 of more than 370,000 francs. The amount of business done in 1903 is reported at 44 per cent. more than in 1902, but the profit failed to cover the general expenses; the high tariff on some materials used was favorable to foreign competition, and concessions in prices had to be made in order to secure business. But the patronage of a great establishment in Lisbon leads to the hope of better things, and the volume of business since January 1 is reported to be 25 per cent. greater than for the same period of last year.

## FORTY YEAR JUBILEE OF DIRECTOR BRÜCK.

HERR HEINRICH BRÜCK, the general director of the Leipziger Gummiwaaren Fabrik, Aktiengesellschaft, on July 1 celebrated the fortieth anniversary of his connection with that factory, which dates from the establishment of the business, in 1864, by the late Julius Marx. This was a pioneer concern in the manufacture of surgical rubber goods in Germany, and had attained wide renown under the name of Julius Marx, Heine & Co. by 1886, when the undertaking was transformed into a joint stock company, under the name first given above. Herr Brück has been intimately connected with the development of this important branch of the rubber industry, and by his capacity and energy has contributed largely to keeping his company in the front rank of manufacturers of surgical rubber goods. The sale of the Leipzig products is no longer confined to the home market, but extends to every leading country on the globe. Herr Brück, by reason of his age, is honorary president of the surgical rubber goods manufacturers' association of Germany. He is a member of the board of the Zentralvereins Deutscher Kautschukwaren-Fabriken (Association of German Rubber Goods Manufacturers), and of the association in the chemical industry, besides which he is an alderman of the city of Leipzig and a member of its chamber of commerce, all of which indicates the high reputation and confidence which he enjoys in industrial and commercial circles. The capital of the Leipzig company is 1,200,000 marks.

## MICHELIN TO MANUFACTURE IN ENGLAND.

MESSRS. MICHELIN & CIE., the important rubber manufacturers of Clermont-Ferrand, France, announce that they are forming an English company under the name of The Michelin Tyre Co., Limited, for the purpose of manufacturing and selling their tires in Great Britain. The company will begin work at the end of October on the expiry of the "Clincher" tire pat-

ent of the late William Erskine Bartlett, No. 16,348, applied for October 14, 1890. This is the first announcement relative to changed conditions in the British tire trade, following the expiration of the important patents owned by the Dunlop Pneumatic Tyre Co., Limited, the other patent being that of Charles K. Welch, No. 14,563, applied for September 16, 1890. It has been suggested that, in view of the continued high price of rubber, there is not likely to be a rush of new firms into the tire manufacturing field, now that the protection granted by these patents has come to an end. Our English contemporary makes the interesting observation that out of the large number of British patents taken out for tires during September, 1890, the only one still in vogue is the Welch patent for wired on tires, all the others having become void; very few were kept going by the payment of the annual fees required by the patent office, after the first few years.

## NOTES.

THE London offices and warehouse of the Continental Caoutchouc and Guttapercha Co. have been removed from Holborn viaduct to much more extensive premises at 102, Clerkenwell Road, E. C., where facilities exist for a large increase in business which the company anticipate in view of the expiration of the patents controlled by the Dunlop company.

—The two sons of Sigmund Beer (Julius and Robert), agent in Vienna for the Liverpool Rubber Co., Limited, have been admitted as partners in the business, the registered style of which has become Sigmund Beer u. Söhne, and the location Mariahilferstrasse 101.

—The Moskauer Gummimanufaktur-Gesellschaft (Moscow, Russia), makes no return of profits for the year 1903. The capital and reserve are reported at 1,986,000 rubles [= \$1,022,790].

## MORE BAHIA (BRAZIL) RUBBER IN SIGHT.

THE German Consul at Bahia reports [May 23]: "In future calculations must be made on the basis of considerably larger receipts. In the statistics at hand no division is made of the rubber sorts, and they relate only to *manicoba* and *mangabeira*—principally the former. For 15 kilograms *manicoba* rubber 75 to 80 milreis, and for *mangabeira* 55 to 60 milreis, are paid at present. In the interior of the state large forests exist, which have not been exploited, their existence being hitherto unknown. The government granted, in September, 1903, a concession to Colonel Pedro Calmon Freire Bittencourt, for the legitimate exploitation of *manicoba* and *mangabeira* within the public lands of the districts of Jequié, Maracás, and Poços. This month a large concession was granted to the two proprietors of the German firm Von der Linde & Co., of Bahia, for a district comprising 15,000 square kilometers. Towards the end of next month an expedition will be sent there to make arrangements for systematic exploitation. Although the location, ownership, and possession of the land in the interior are not quite clear, it is expected that the *cessionnaires* will take advantage of their granted preferences over others likewise interested, and, in combination with the inhabitants there, gain control of the rubber production. The opening up of a district, which had been wholly left to itself, may cause a back action in the import conditions because on exploitation of the wild cotton, which grows abundantly in the district, will likely be taken up at the same time. It is the intention of Von der Linde & Co., as also that of the Brazilian *cessionnaire* who has heretofore brought in only small quantities, through careful treatment of the product and the preservation of the forests, to obtain a clean product."

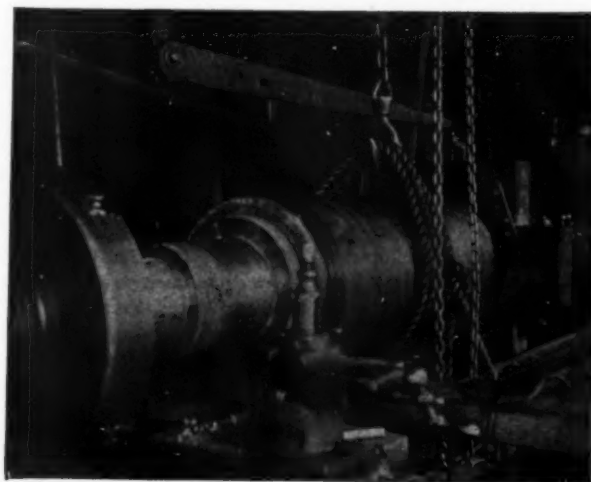
## SUCCESSFUL BRAZING OF CAST IRON.

RUBBER manufacturers have ever been sufferers from the breakage of mill and calender rolls, frames, and gear teeth, which, made of cast iron could not be mended, but had to be replaced. Aside from the cost of replacement, there was often a troublesome and expensive delay while new parts were being cast, finished and delivered.



BROKEN CALENDER ROLL BEFORE BRAZING.

By what is known as the "Tichon" process any break in cast iron may be mended, leaving the parts stronger than before, and the original lines of the castings preserved intact. To do this the fractured parts are first cleansed, after which a brazing compound or alloy is applied, followed by the applica-



CALENDER ROLL AFTER BRAZING.

tion of heat by means of a gas and air jet. The process is so simple that it may be installed in any factory, and for those who do not care to acquire shop rights, there are now being established brazing stations in all large centers where any type of repair work in cast iron will be done.

The cost of such repairing is far less than that of replacement, and any job can be finished in a few hours' time. In the illustrations accompanying this there is shown a 6 foot calender

roll 20 inches in diameter, which after being broken in two was successfully brazed together and is now running on fine work, showing no weakness nor sign of having been mended. This work, which is sure to be of interest to the whole rubber trade, is done by the Standard Brazing Co., No. 131 State street, Boston.

## RUBBER PAVING IN LONDON.

THE frequent newspaper references of late to the great field for the use of rubber in paving streets took their start from the paving with rubber of the courtyard of the Savoy Hotel, in London, about the first of May. A recent report by the United States consul general at London, Mr. H. Clay Evans, gives some details of interest regarding the Savoy Hotel pavement, and also the older example of rubber paving under the hotel at Euston station, in London.

The paving at Euston station was laid down in 1881 by Kirk & Randall, the contractors for the extension of the hotel, at a cost per square yard stated as follows:

Concrete foundation work.....	\$ 5.60
Rubber paving, supplied by Charles Macintosh & Co., Limited.	27.10

Total approximate cost.....	\$32.70
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When the rubber was laid down it was 2 inches in thickness. In May, 1902, after twenty-one years' the portion on the incoming road into the station was taken up and carefully examined, when it was found to have worn down to about  $\frac{3}{8}$  inch in the thinnest place, namely, at the incoming end, where horses first step onto it from the macadamized road. Other parts of the rubber were worn down to 1 inch and  $1\frac{1}{4}$  inches, these places in each case being near the center of the roadway. Renewal of a portion of the pavement was therefore considered necessary.

Tenders were invited in August, 1902, from four firms, and the prices named varied from £5 11s. 4d. [= \$27.09] to £17 10s. 3d. [= \$86.22] per square yard, Messrs. Macintosh's price being £10 2s. 6d. [= \$49.26]. It may be mentioned that since 1881 rubber had advanced materially in price. The lowest tender was accepted, that of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited. The total cost of the renewal in 1902 was \$28.75 per square yard, including laying, after credit had been given for the old rubber taken up. It is stated that since 1881 the average yearly cost of examination and maintenance of the Euston rubber pavement has been slightly under  $3\frac{1}{4}$ d. per square yard.

The recent paving of the Savoy Hotel courtyard was done by James Stewart & Co. The area of the courtyard is 3750 square feet, of which 2195 were covered with rubber. The rubber used was 2 inches thick, weighing  $15\frac{1}{4}$  pounds per square foot, and it was laid on a concrete foundation, finished with cement floating to make it smooth. The cost of the material laid, without including the foundation, was 18s. 8d. per foot, or £8 8s. [= \$40.78] per yard, which will be seen to have been considerably higher than the cost at Euston station. The rubber used at the Savoy Hotel was furnished by Charles Macintosh & Co., Limited, at a total cost of £2000 [= \$9733].

It may be added that the conditions under which the above mentioned pavements are used do not compare with those of ordinary streets. While they are in constant use, and the traffic at Euston station is very heavy, the only wheels passing over the rubber are those of passenger vehicles, and these nowadays are mostly rubber tired. Both at the hotel at Euston station and in the Savoy Hotel courtyard the rubber pavement is under a roof.



## NEWS OF THE AMERICAN RUBBER TRADE.

## MECHANICAL GOODS MANUFACTURERS ORGANIZE.

A MEETING of manufacturers of mechanical rubber goods, held at the Waldorf-Astoria, in New York, on the morning of Monday, August 22, was attended by representatives of a number of the leading factories, as follows:

Bertram G. Work, The B. F. Goodrich Co.  
E. S. Williams and William Hillman, Revere Rubber Co.  
Arthur F. Townsend and Elliot M. Henderson, Manhattan Rubber Manufacturing Co.  
Charles A. Hunter, John H. Cobb, G. S. Taylor, William T. Cole, and Ernest F. Hopkinson, Rubber Goods Manufacturing Co.  
Leonard J. Lomasney, The Republic Rubber Co.  
Welling G. Sichel, United and Globe Rubber Manufacturing Cos.  
John J. Voorhees, Voorhees Rubber Manufacturing Co.  
Fred. N. Hamerstrom, Trenton Rubber Manufacturing Co., Joseph Stokes Rubber Co., and Home Rubber Co.  
A. Boyd Cornell, Empire Rubber Manufacturing Co.  
C. Edward Murray, Crescent Belting and Packing Co.  
Alexander M. Paul, Boston Woven Hose and Rubber Co.  
William B. Miller, The Diamond Rubber Co.  
Benjamin F. Elson, Boston Belting Co.  
Alfred Whitehead, Whitehead Brothers Rubber Co.  
S. V. B. Brewster, Eureka Rubber Manufacturing Co. of Trenton.

Mr. B. G. Work was elected presiding officer and Mr. William Hillman secretary. After discussion it was voted to form a permanent organization, and those present unanimously agreed to the name The Mechanical Rubber Manufacturers' Association of the United States. The chair then appointed the following committee to draft a constitution and by-laws: Messrs. Hopkinson, Townsend, and Hillman. The following committee was appointed to draft the order of business for the next meeting: Messrs. W. B. Miller, J. H. Cobb, A. M. Paul, E. M. Henderson, E. S. Williams, and W. G. Sichel.

Among the subjects discussed during the morning and afternoon sessions were whether time guarantees should be given, terms, datings, and consignments. An adjournment was had to an early date in September, when the committees will report and recommendations will be submitted as to the best way of overcoming the evils under discussion.

## CLIFTON MANUFACTURING CO.—REMOVAL.

DURING the month the Clifton Manufacturing Co. have transferred their factory plant from Hyde Park to the buildings occupied by the late Cable Rubber Co., 65 Brookside avenue, Jamaica Plain, Massachusetts. Here they will have greatly improved facilities for manufacturing. They now have modern and improved machinery for the manufacture of electric insulating tapes and compounds, mold and press work, and also for their rubber specialties, to which they intend giving more attention than ever before.

## FISK RUBBER CO. IN BOSTON.

THE Fisk Rubber Co. (Chicopee Falls, Massachusetts) have leased a building at No. 226 Columbus avenue, Boston, into which they expect to move during the first week of this month. The company advise THE INDIA RUBBER WORLD: "This building is being arranged so that it will be an ideal branch for a rubber concern, and our increasing business in Boston has practically forced us up into the automobile district. We believe we are fortunate in getting this location." The lease is for five years.

## THE VICTOR RUBBER CO. (SPRINGFIELD, OHIO.)

PRESIDENT DURR informs THE INDIA RUBBER WORLD that the preliminary changes and preparations incident to the reor-

ganization of this company have been completed. They are sending out notices that they are in a position to fill orders on the regular line of tires made hitherto by the company, and mats, matting, and molded specialties. He states: "The newly organized company is composed wholly of new interests, and has among its members men of wide business experience, thorough acquaintance with tire manufacturing and marketing, and ample capital. It is the purpose of the company to pursue a policy of high grade, reputable goods."

## RUBBER GOODS DIVIDEND.

THE directors of the Rubber Goods Manufacturing Co., at a meeting in New York on August 4, declared the twenty-second regular quarterly dividend of 1¼ per cent. on the preferred shares, out of earnings, payable September 15, to shareholders of record September 6. The disbursement will amount to \$140,899.50.

## TENNANT AUTO-TIRE CO. TO BUILD.

THIS company, located at Springfield, Ohio, and marketing puncture proof pneumatic automobile and carriage tires, made for them under patents granted to Irvin Tennant, advise THE INDIA RUBBER WORLD: "We intend to establish a factory in the very near future, as business is increasing to such proportions that our present facilities are inadequate. We are open for a proposition, and the city that offers us the best inducement is the one that will get our factory, which will mean a business of some importance to any town."

## THE ALDEN RUBBER CO. (BARBERTON, OHIO).

THE reorganization of this company has now been completed, the official list being as follows: B. F. Tracy, president; William L. Raisch, secretary and general superintendent; William A. Johnston, treasurer; George C. Kohler, general counsel. The board of directors consists of the above, with the addition of Harry Musser. Messrs Tracy and Johnston are also president and treasurer, respectively, of the Pure Gum Specialty Co. (Akron, Ohio). The Alden company have been active of late and are reported to be doing a successful business.

## OUTING OF THE GOODRICH EMPLOYEES.

THE annual picnic of the employés of The B. F. Goodrich Co. (Akron, Ohio) was held at Silver Lake Park on August 6, and as usual it was the biggest picnic of the season. The company provided transportation for their employés and families, and over 5000 persons spent the day at the lake. There was a program of sports during the afternoon, for which prizes were provided by the company. The factory was closed for the day.

## WATERPROOF CLOTHING TRADE IN CANADA.

[FROM the Toronto Clothier and Haberdasher.] There can be no denying the fact that the Canadian manufacturers of rainproof and waterproof clothing are not in as favorable a position to do business now as they were before the new tariff on woolen cloth and woolen garments came into force. The cheaper cotton lines, of course, are not affected, but as there has been an increase of 6½ per cent. in the cost of imported woolen cloth without a corresponding increase in the duty on the made up garment, it is felt that an injustice has been done to the domestic manufacturers as far as the better class of goods is concerned. If the duty on the made up garment had been increased by 15 or 20 per cent. a reasonable protection would have been granted, particularly in view of the fact that labor is so much cheaper in Great Britain. All the facts and

figures in connection with the situation are being put into shape for the consideration of the government.

#### FRANKENBURG'S CANADIAN BRANCH.

MR. ISIDOR FRANKENBURG, the head of I. Frankenburg & Sons, Limited (Manchester, England), has been in Montreal recently, on business connected with the reorganization and extension of their Canadian branch. Preparations are being made for manufacturing in Canada in a larger way, and to make the Montreal branch a distributing center for goods made at the Manchester headquarters. A circular has been issued announcing the resignation, on August 5, of E. L. Rosenthal as manager of the Canadian branch.—Mr. Rosenthal has become associated with the London Rubber Co., manufacturers of waterproof and rainproof clothing, in Montreal.

#### OUTING OF THE TYER RUBBER CO.'S EMPLOYEES.

THE annual picnic and field day of the employees of the Tyer Rubber Co. (Andover, Massachusetts) was held at Revere Beach Saturday, August 13, about 500 enjoying this outing. Special cars carried all direct to the beach from Andover without change. The day was occupied with the usual sports, and the entertainments always found at this resort were most thoroughly enjoyed. A basket lunch was served, and toward evening the cars were again taken for a trolley ride of 20 miles through some of Massachusetts's charming scenery. All arrived home without accident, it having been one of the most pleasant of the many outings given by the company.

#### MANUFACTURE OF TYPEWRITER CUSHIONS.

THE Typewriter Cushion Key Co. (Newark, New Jersey), hitherto owning and operating the Imperial Manufacturing Co. have filed with the secretary of state of New Jersey a certificate of change of name to the Imperial Manufacturing Co. The business of the company is the manufacture of rubber cushions for typewriter keys, under patents granted in 1895 to Robert S. Graham and W. B. Savell, and also typewriter ribbons and carbon papers for all purposes. W. B. Savell is president of the company and E. M. Grower secretary and treasurer; the capital is \$120,000.

#### PLYMOUTH RUBBER CO.—EXTENSIONS.

THE Plymouth Rubber Co. (Stoughton, Massachusetts) have completed a fireproof structure 30 × 70 feet, to which have been removed the rubber churns formerly located in their main factory, the object being to obtain greater security against fire, as well as to provide more room. The mechanical rubber goods department started last year has grown steadily, the equipment having been increased lately by the addition of presses, pumps, and accumulators. The company have taken on the manufacture of carriage and automobile tires.

#### THE SWEET TIRE AND RUBBER CO.

AT the annual meeting at Batavia, New York, on August 24, the following directors were elected: John H. Ward, Ashton W. Caney, George E. Perrin, and John M. Sweet, of Batavia, and Lewis Benedict, of Attica, N. Y. John H. Ward was elected president in place of Frank Richardson, recently resigned; A. W. Caney was reelected vice president, and G. E. Perrin was reelected treasurer, with the addition of the duties of secretary, which position was filled formerly by Mr. Sweet. The result of last year's business was eminently satisfactory to the directors, and a larger business is anticipated for the coming year. The company make a specialty of the manufacture of solid and cushion rubber tires.

#### FISH STORY SPOILED.

A NEWSPAPER story to the effect that the two largest rubber factories in Akron, Ohio, had to stop work recently on account of the water supply pipes leading from the canal becoming filled

up with thousands of small fish, is categorically denied by the manufacturers. At the Goodrich plant one of the pipes became clogged with sediment from the canal, and there were perhaps a half dozen minnows in the sediment, and this was the basis for the story. It was no small "yarn," by the way, since the Goodrich supply main is two feet in diameter, and water is raised through it by powerful pumps, so that a multitude of fish would have been necessary to stop the flow.

#### NEW INCORPORATIONS.

THE Mitzel Rubber Co., August 11, 1904, under Ohio laws, to manufacture rubber goods; capital, \$100,000. This is the company of which an advance notice was given in the last INDIA RUBBER WORLD [page 393], and has been formed to continue the business hitherto conducted at Akron under the same name by Harvey F. Mitzel, who becomes president and treasurer of the new corporation. His brother, R. A. Mitzel, is vice president, and George N. Edy, secretary. The company are having a factory erected at Carrollton, Ohio, to which place their work will be transferred about October 1. They have acquired there three acres of land, and the first building will be of brick, two stories, 200 × 40 feet. It will be equipped with 7 or 8 hydraulic presses, 2 tubing machines, 3 vulcanizers, a calender, 2 mills, and a washer. The vapor, dry heat, and steam cure will be used. The production will embrace drug-gists' sundries, air goods, and some mechanical goods. The capacity for making dipped goods will be four times as great as in Akron.

=The Clarendon Rubber Co., July 29, 1904, under Massachusetts laws; capital, \$25,000. Incorporators: James F. Pring (president), Hyde Park, Mass.; Manter M. Jewett (treasurer), Boston; Sewall E. Newman (secretary), Winchester, Mass. Mr. Pring has erected upon the site of the former morocco works at Clarendon Hill, Hyde Park, a factory building to be used, and the new company will be ready to begin operations early this month, making mackintoshes and waterproof clothing; hospital and nursery sheeting; mold work, and proofing for the trade. For the last fifteen years Mr. Pring has been superintendent for S. Klous & Co., at the Boston Gossamer Rubber Works, Hyde Park, which works were closed recently on account of the retirement of the Messrs. Klous from business.

=The Amazon Rubber Co. (Jamestown, N. Y.), August 9, 1904, under New York laws, to manufacture mechanical rubber goods; capital, \$100,000. Directors: James B. Ross, Charles H. Walters, Ralph C. Sheldon, George W. Quinlan, and Brewer D. Phillips. Mr. Walters was recently connected with the Victor Rubber Co. (Springfield, Ohio) and Mr. Quinlan was lately of the Vim Cycle and Hardware Co. (Buffalo, N. Y.)

=Pneumatic Manufacturing Co. (New York), August 15, 1904, under New York laws; capital, \$100,000. Incorporators: Charles T. Russell, Henry Young, Robert A. Weber, Alcuin N. Sanders, Jerome H. Koehler, Oswald L. Simpson, and Frederick S. Jackson, all of New York city. This company is formed to succeed the Pneumatic Mattress and Cushion Co., incorporated under New York laws on July 30, 1901, to exploit mattresses and cushions under the patents of Albert A. Young, and formerly manufactured at Reading, Massachusetts. On July 14, 1904, Henry Sheldon was appointed receiver in bankruptcy for the last named company, their office being then at No. 2 South street, New York. The property of the company has been purchased from the receiver in bankruptcy by parties who will continue the business.

=The Newark Pneumatic Puncture Proof Tire Co., August 12, 1904, under New Jersey laws, to make vehicle tires; capital, \$25,000. Incorporators: Henry Willoughby, Jr., John Millar, and Edward K. Patterson. Registered office: Kearney, New

Jersey. The company will exploit a tire under United States patent No. 761,847, granted to Millar.

=Fibre Cushion Horseshoe Co. (No. 88 New Chambers street, New York), June 26, 1904, under New York laws; capital, \$300,000, in \$10 shares. Incorporators and directors for one year: Lionel D. Saxton (president), F. B. Langan, and John T. Langan. Formed to continue the business hitherto carried on under the same name, of manufacturing Saxton's fiber cushion horseshoe, which embodies a pad composed of numerous plies of cotton duck, held together with rubber friction, strongly compressed, vulcanized, and so adjusted to the metal shoe that the plies of duck stand on edge when touching the street surface.

=Manabo Manufacturing Co. (New York), July 18, 1904, under New York laws; capital, \$300,000. Directors: Louis A. Levy, No. 96 Water street, and Albert Veith, No. 622 Broadway, New York; Henry B. Corey, No. 1051 Prospect place, Brooklyn. To manufacture a golf ball patented by Joseph A. Manahan, of New York—No. 765,145, July 12, 1904. The patent claim is for "A ball comprising a core having a plurality of channels communicating at their inner ends with each other, an elastic covering for the core, and plungers operating in said channels and adapted to engage such elastic covering." The spherical core is wound with rubber thread and the cover is of Balata.

#### AN APPEAL IN RE FABER VS. FABER.

[See THE INDIA RUBBER WORLD, August 1, 1904—page 304.]

THE firm of Eberhard Faber has filed an appeal to the United States circuit court of appeals, from the decree of Judge Ray, entered July 19, 1904, in the United States circuit court for the southern district of New York, in the suit of A. W. Faber to have the party first named enjoined from the use of certain designations in advertising lead pencils, erasive rubber, and rubber bands. The appellant gives a bond for \$25,000, in addition to a bond for costs, and the injunction issued by virtue of the above decree is suspended during the pendency of the appeal. This does not, however, affect the operation of the terms of the decree requiring Eberhard Faber to make an accounting of the goods in his possession marked in the manner complained of.

#### OUTING OF THE REVERE RUBBER CO.'S EMPLOYÉS.

THE fifteenth annual picnic of the employés of the Revere Rubber Co. was held on Saturday, July 30, at Centennial Grove, Essex, Massachusetts. The employés and their families and guests, making a party of nearly a thousand, left Chelsea in a special train of 15 cars at 8.15 A. M., and reached the grove an hour later. The weather was delightful, and the program arranged was carried out with entire success. The principal feature was a baseball game, for a prize of \$50, between two picked teams from the factory. After a hotly contested match of two hours the McLaughlin team defeated the Casey team by a score of 14 to 8. Other events were:

One hundred yard dash, with three prizes.—Winners: Joseph Casey, first; J. Thornton, second; D. Conners, third.

One quarter mile run.—J. M. Patterson, first; J. Casey, second; J. Thornton, third.

One hundred yards married men's race.—D. Conners, first; C. Crowley, second; D. Carter, third.

Three legged race.—J. Mahoney and E. Cronin, first; J. Casey and P. Thorpe, second.

There was also a boys' race, girls' race, and potato race. But what caused more amusement than all the others was an event not on the program—a fat man's race, contested by a member of the house of representatives (weight 400 pounds), a foreman at the Revere factory (350 pounds), and an engineer at the fac-

tory (250 pounds). The lawmaker won the race, but the others consoled themselves with the fact that he had the advantage in point of years. Later there was rowing on the beautiful lake, and the dancing pavilion was freely patronized. At 6 o'clock the party marched from the grounds to the strains of "Home, Sweet Home" played by the band, and within an hour had arrived safely at Chelsea. Mr. J. S. Patterson, assistant superintendent at the factory, saw the party start in the morning, and Mr. F. W. Veazie, superintendent, spent the afternoon at the picnic grounds. The company defrayed all the expenses of the outing. The committee in charge consisted of A. N. Smith (chairman), John Egan (secretary), P. J. Malley, J. F. McLaughlin, James Casey, J. Baldwin, T. McLaughlin.

#### FISK RUBBER CO.—REORGANIZATION.

PROPOSALS have been made to the creditors of this company, by the receiver, looking to a reorganization on the basis of shares of a new company, to be incorporated to continue the business, being accepted in payment of their claims. The company was incorporated in the latter part of 1898 to acquire the tire plant of the Spalding & Pepper Co. (Chicopee Falls, Mass.), with \$33,000 capital. A good business was done from the beginning, but after the death of Mr. Noyes W. Fisk, president of the company, in 1901, the assistance which he had rendered in obtaining credits was lacking, with the result that this statement was issued on October 15, 1903:

The Fisk Rubber Co. has made an assignment to A. N. Mayo, of Springfield, for the purpose of reorganization and increase of capital stock. The assets are in excess of the liabilities, and it is expected that all indebtedness will be paid in full.

A statement made in connection with the assignment showed assets of \$232,587.09 and liabilities of \$237,480.96. The business of the company has since been continued uninterruptedly, and it is stated that during the first six months following the appointment of the receiver the profits earned aggregated \$62,750. It is proposed, in case the reorganization plan is assented to, to put it into operation not later than November 1 of the present year. The proposals include stipulations regarding the retirement of the stock to be issued to the creditors, which is to be in 6 per cent. cumulative shares.

#### THE GOODYEAR TIRE AND RUBBER CO. (AKRON).

THIS company filed in the office of the secretary of state of Ohio on August 1 a certificate reducing its capital stock—all common—from \$1,000,000 to \$500,000, and later on the same date filed a certificate increasing its capital stock from \$500,000 to \$1,000,000—one half preferred. This transaction is explained by the provisions of the Ohio statute under which common stock can be changed to preferred stock only by such procedure. The whole relates to the plan of reorganization of the company submitted lately to its creditors [See THE INDIA RUBBER WORLD, May 1, 1904—page 288], who were invited to surrender their claim for a prospective issue of bonds and a new issue of preferred shares, the company to have the right to redeem these securities at any time. The company was originally capitalized at \$1,000,000, but of this only one half was issued, and the remaining shares were cancelled by the reincorporation. Of the new capital \$500,000 is to be in 6 per cent. cumulative preferred shares, "such stock to have a preference in liquidation as well as in dividends." The plan involves also \$300,000 of 10 year 6 per cent. bonds, secured by mortgage on the company's plant.

#### END OF THE SOLID TIRE POOL.

THE pool which has existed during the past twelve months in solid and cushion rubber tires expired on September 1, as the result of a decision reached at a meeting of manufacturers held



in New York early in the past month. The arrangement which has thus terminated had reference to the maintenance of prices, and was guaranteed by the parties to it giving bonds, while the secretary of the pool had authority to examine the books of the various factories. As an aid to carrying out this agreement, there was an allotment of production among the factories; or, rather, those firms turning out more than their allotment contributed to a fund which was divided among firms not receiving their share of orders.

It is understood that the manufacturers' agreement in respect to "Clincher" pneumatic, which has existed for a year past, remains in force.

#### OUTING OF PASSAIC FACTORY EMPLOYEES.

THE outing committee of the Passaic factory of the New York Belting and Packing Co., Limited, have arranged for the holding of the seventh annual clambake, under the auspices of the foreman and clerks and executive staff of the factory, at Donnelly's Grove, College Point, Long Island, on September 3. A chowder breakfast is to be served at 10 A. M. and there will be games until 2 P. M., at which hour a Rhode Island bake will be served. This outing is unique in the Eastern rubber trade, and serves admirably to illustrate the loyalty and community of interest existing between the employes and officials of the company. The complimentary invitations issued this year are of rubber, molded in the shape of a clamshell with the invitation expressed in raised letters.

#### CHEMICALS FOR THE RUBBER TRADE.

THE Acker Process Co. (Niagara Falls, N. Y.), chemical manufacturers on a large scale, have entered the field of supplying the rubber trade with their products in chloride of sulphur and carbon tetrachloride, which they can furnish promptly in good size quantities; also caustic soda, bleaching powder, etc. It is understood that they have an entirely new process for the manufacture of sulphur chloride. Their advertisement appears on another page.

#### TRADE NEWS NOTES.

THE factories of the United States Rubber Co. at Naugatuck, Connecticut, were to resume work on Monday, August 29, after a shutdown of three weeks. The intention at first was to close for only two weeks, but the repairs undertaken during the vacation required more time than was expected. The Naugatuck rubber factories have not been closed before in summer for several years, and many of the employes have had an unusual experience in going away from home for a vacation during the heated term.

=The factory of the Joseph Banigan Rubber Co. (Olneyville, Rhode Island), resumed work on August 1, after a shutdown of four weeks, resulting from the blowing out of a cylinder head, which completely wrecked the engine. The company are reported to have in hand an important order for government work.

=The factories of the Woonsocket Rubber Co. were shut down for ten days recently, starting up during the third week in August.

=The shoe department at the factory of the National India Rubber Co. (Bristol, Rhode Island) was closed on August 13 for two weeks. The other departments continued in operation.

=The International Automobile and Vehicle Tire Co. (Milltown, New Jersey) have acquired all the rights to the Stodder puncture proof tire, which they have been manufacturing for some time past.

=The Beacon Falls Rubber Shoe Co.'s Boston branch is now fully installed in the new premises, No. 228 Congress street.

=The store of the Goodyear Rubber Co. was among the business houses seriously damaged by an unprecedented storm which swept over St. Paul, Minnesota, on August 21, causing the known loss of twelve lives in the state and a loss of property estimated at millions of dollars.

=The rubber reclaiming plant of the New Jersey Rubber Co. (Lambertville, New Jersey) was closed for repairs for a week during the middle of August. Work was resumed as promptly as possible, as the company have a number of orders in hand.

=The board of fire commissioners of St. Paul, Minnesota, on August 17, opened bids for 1000 feet of fire hose, awarding the contract to the St. Paul Rubber Co., jobbers, of that city, at \$1.10 per foot.

=The premises known as the "Goodyear Rubber Store," at No. 866 Chapel street, New Haven, Connecticut, long occupied as a retail rubber store by Frank C. Tuttle, whose bankruptcy was reported in THE INDIA RUBBER WORLD for July 1, are now occupied by The Pardee-Ellenberger Co., with a retail stock of rubber goods, sporting goods, phonographs and records. The firm will continue their wholesale business at their old location, No. 155 Orange street.

=At a meeting on August 5, of creditors of Frank C. Tuttle, a rubber goods dealer in New Haven, Connecticut, who failed in June, a first dividend of 10 per cent. of the claims was declared.

=A recent fire in the factory of the Empire Rubber Manufacturing Co. (Trenton, New Jersey), caused by frictional electricity from a belt, and quickly extinguished by sprinklers, causing a total loss of \$918, led to the publication by the insurance press of the amount of insurance carried by the company—\$267,750.

=Schedules of bankruptcy of Benedict Reis, who did business as the Neptune Rubber Co., manufacturing mackintoshes and rainproof coats at No. 23 Lispenard street, New York, show liabilities of \$41,327 and nominal assets of \$4100, of which \$3900 is represented by 39 shares of the Mercury Rubber Co., which was incorporated in 1903 to operate a factory at Elizabeth, New Jersey, but never made a start. Benedict Reis, after his failure, left the country, but is now in New York selling silks for a foreign house.

=Samuel W. Luce has resigned as auditor of The Republic Rubber Co. (Youngstown, Ohio) and been succeeded by C. F. Garrison.

=C. J. Bailey & Co. (Boston) on August 10 received a telegram from Mr. H. Fred Lesh, who recently went from Boston to St. Louis in an automobile contest, reading as follows: "From Boston here with five passengers, on the Bailey 'Won't Slip' tires, without a single tire trouble. No other tires made such a record on the run."—A. E. Morrison, on "Peerless" automobile equipped with "Won't Slip" tires, won the automobile race at Newport, Rhode Island, on July 30, over all foreign and American cars in this class.

=The W. C. Coleman Co. (Setauket, New York) desire us to state that it is owned by the same parties who owned it when it was located in New York city. It has in no way connected itself with any other person or firm, either in Setauket or elsewhere, since its establishment.

=Corydon M. Amerman, formerly with William Wright & Co., importers of crude rubber, has opened an office as broker in rubber at No. 108 Water street, New York.

=Leonard Klein, aged 45, an employe of the Alkali Rubber Co. (Akron, Ohio), had both hands so badly crushed in a mill at the company's factory that amputation was necessary. He afterwards died at the hospital, as is supposed from worry over his unfortunate condition. He left a widow and thirteen children.

=F. Haskell Smith, formerly with the Milwaukee Rubber Works Co., and recently with the Boston Woven Hose and Rubber Co., has accepted a position with the Fisk Rubber Co. (Chicopee Falls, Massachusetts).

#### PERSONAL MENTION.

MR. HENRY C. PEARSON, Editor of THE INDIA RUBBER WORLD, has been appointed a Juror of Awards for the St. Louis World's Fair, in July 11, which will review exhibits of India-rubber and Gutta-percha and manufactures thereof. He will be detained at St. Louis by this duty until about September 15.

=Mr. Amadée Spadone, president of the Gutta Percha and Rubber Manufacturing Co. (New York), has spent several weeks this summer in travel in Italy, Germany, and France, including a visit to his native village near Arras, in the French department of Pas de-Calais. He reports an enjoyable vacation, repeating now after a considerable interval what used to be with him an annual tour.

=Colonel Samuel P. Colt, president of the United States Rubber Co., who has been in Europe for several weeks, is expected to return early in the present month.

=Mr. Charles H. Dale, president of the Rubber Goods Manufacturing Co., sailed for Europe on August 19, for a vacation of a few weeks.

=Signor Alberto Pirelli, a member of the important rubber manufacturing firm of Pirelli & Co. (Milan, Italy), who is in the United States to attend the International Electrical Congress, in connection with the St. Louis World's Fair, favored THE INDIA RUBBER WORLD offices with a call during the month.

=Mr. Fred C. Hood, treasurer and general manager of the Hood Rubber Co. (Boston) is one of the rubber men from the United States who have been spending a vacation in Europe this summer, and whose return is expected shortly.

=Mr. Isaac B. Markey, secretary of the Eureka Fire Hose Co. (New York), has recently been ill—so much so that he probably will not be able to attend the convention of the International Association of Fire Engineers at Chattanooga, Tennessee, on September 13 16, as he intended—but at last accounts his condition was improving.

=Colonel Harry E. Converse, president of the Boston Rubber Shoe Co., and his family are visiting the Louisiana Purchase Exposition, at St. Louis.

#### OBITUARY NOTES.

EDMUND FIELD HEATH, one of the oldest manufacturers of Newark, New Jersey, died at his home in that city on August 11. He was born in London nearly 80 years ago, and settled in Newark with his parents early in life. He had carried on for over 50 years the manufacture of rubber and enameled carriage cloth, in which he had built up a large business, conducted laterly under the style E. F. Heath & Son.

=J. A. Vining, of Akron, Ohio, died on August 18, at his mother's home at Monument Beach, Massachusetts. He was a director in the Whitman & Barnes Manufacturing Co., and had charge of their manufacturing in Akron and Chicago. He had been with the firm for 25 years, was 47 years of age and unmarried, and a member of the Akron lodge of Elks.

=Hugh Murphy died at his home in Franklin, Massachusetts, on August 20, in his sixty-fourth year. A native of Ireland, he came to America at an early age and in time entered the rubber industry, being for a time with the late Mr. Bannigan, in the Woonsocket rubber factory. Later, with Patrick Wren and Horace Jenckes, he built the rubber factory at Franklin which came under control of George H. Hood—the Boston Rubber Co.—and worked there until the factory, then owned by the United States Rubber Co., was closed, in 1896. One of Mr. Murphy's sons is now employed by the Hood Rubber Co., at Watertown.

### REVIEW OF THE CRUDE RUBBER MARKET.

IN addition to a greater scarcity of supplies of fine rubber than has yet been reported at any time, and exceptionally high prices for all grades, there is to be reported thus far lighter arrivals at Amazon ports than for several seasons past. The topic of paramount interest with rubber manufacturers everywhere is the continued high cost of their raw materials, and the lack of indication of any early relief. Below are given the quotations ruling at this writing. There have been transactions in America at even higher rates. One firm reports: "The highest we have heard for regular market in Upriver rubber is \$1.20, at which regular business has been done. What old rubber or special buyers have paid we do not know, but we have sold a few tons at \$1.25—not old rubber." Another house reports the sale during the month of old Bolivian fine at \$1.25. London advices of August 19 recorded sales of fine hard and Bolivian fine at 5s. 2½d. [= \$1.27], but undoubtedly the highest price to date is that obtained at the London auction, on the date mentioned—5s. 7¼d. [= \$1.37] for cultivated rubber from Ceylon, Pará variety.

The reports may readily be credited that manufacturers are not buying beyond their more pressing immediate requirements, in the hope of an early decline in prices. In this connection this suggestion comes to hand: "It is just this policy that gives speculators in rubber their opportunity. In fact, there are houses to-day interested in discouraging the buying of rubber, by which means they hope to see an accumulation of rubber—something which now nowhere exists—when they will

buy freely on their own account. Later in the season, when the manufacturers will be obliged to buy heavily, they will have to deal with the houses which have thus acquired supplies of rubber. No speculatively inclined house," this suggestion goes on, "will buy rubber at present prices in the hope of liberal future profits, and they are concerned in bringing about a decline." But while American manufacturers may not have been buyers on a large scale, still a great deal of buying has been done. A single firm of brokers report having made 168 contracts during August.

It is understood that the rubber sold at Antwerp during the month was bought largely for American account, but as it was purchased for filling orders, the arrivals now almost due at New York will not contribute materially to stocks here. It has been claimed on this side of the Atlantic that for some time past Antwerp offerings have been overvalued, but in the same quarters it is admitted that the August estimations more accurately represented values. The figures on another page indicate the advance recorded over former prices.

Arrivals at Pará during July last (including Caucho) were 1250 tons, against 1270 tons in July, 1903. Arrivals in August, up to the 29th, amounted to 1040 tons, against 1230 tons for the whole month last year. In other words: July and August last year, 2510 tons; to August 29 this year, 2290 tons.

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York), advises us "During August the money market has continued in the

same easy condition of the past three months, call loans ruling at about 1 per cent., and rubber paper being taken at  $4\frac{1}{2}$  @  $5\frac{1}{2}$  according to grade."

Following is a statement of prices of Pará grades, one year ago, one month ago, and on August 30—the current date.

PARA.	Sept. 1, '03.	Aug. 1, '04.	Aug. 30.
Islands, fine, new.....	96@ 97	114@115	116@117
Islands, fine, old.....	100@101	none here	none here
Upriver, fine, new.....	99@100	118@119	120@121
Upriver, fine, old.....	101@102	119@120	122@123
Islands, coarse, new.....	59@ 60	64@ 65	66@ 67
Islands, coarse, old.....	@	none here	none here
Upriver, coarse, new.....	78@ 79	91@ 92	91@ 92
Upriver, coarse, old.....	@	none here	none here
Caucho (Peruvian) sheet.....	61@ 62	68@ 69	68@ 69
Caucho (Peruvian) ball.....	74@ 75	77@ 78	77@ 78

We have no change to report, since the first of the month, in other sorts at New York:

AFRICAN.		CENTRALS.	
Sierra Leone, 1st quality 94	@95	Esmeralda, sausage... 74	@75
Massai, red..... 94	@95	Guayaquil, strip..... 64	@65
Benguella..... 74	@75	Nicaragua, scrap... 74	@75
Cameroon ball..... 64	@65	Panama, slab..... 57	@58
Accra flake..... 33	@34	Mexican, scrap..... 72	@73
Lopori ball, prime..... 93	@94	Mexican, slab..... 57	@58
Lopori strip, prime..... 89	@90	Mangabeira, sheet..... 49	@57
Ikelemba..... 94	@95	EAST INDIAN.	
Madagascar, pinky..... 82	@83	Assam..... 86	@87
		Borneo.....	@

Late Pará cables quote:

Per Kilo.		Per Kilo.	
Islands, fine.....	78@100	Upriver, fine.....	88@200
Islands, coarse.....	38@500	Upriver, coarse.....	68@000

Exchange, 12 $\frac{1}{2}$ d.

Last Manáos advices:

Upriver, fine.....	78@50	Upriver, coarse.....	58@250
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Exchange, 12 $\frac{1}{2}$ d.

#### NEW YORK RUBBER PRICES FOR JULY (NEW RUBBER).

	1904.	1903.	1902.
Upriver, fine.....	1.12@1.19	94@96	70 @72
Upriver, coarse.....	87@ 91	74@76	55 @56
Islands, fine.....	1.09@1.15	89@92	67 @69
Islands, coarse.....	63@ 66	56@58	44 @46
Cametá, coarse.....	64@ 66	58@60	46 @48

#### Statistics of Para Rubber (Excluding Caucho).

NEW YORK.				
	Fine and Medium.	Coarse.	Total 1904.	Total 1903.
Stocks, June 30.....	112	25 =	137	367
Arrivals, July.....	218	260 =	478	942
Aggregating.....	330	285 =	615	1300
Deliveries, July.....	273	276 =	549	1085
Stocks, July 30.....	57	9 =	66	224

PARÁ.				
	1904.	1903.	1902.	
Stocks, June 30.....	175	115	65	585
Arrivals, July.....	1010	1050	1060	595
Aggregating.....	1185	1165	1125	1180
Deliveries, July.....	870	1030	1085	745
Stocks, July 30.....	315	135	40	435

ENGLAND.				
	1904.	1903.	1902.	
World's visible supply, July 30.....	1281	2088	2958	
Para receipts, July 1 to July 30.....	1010	1050	1060	
Para receipts of Caucho, same dates.....	230	230	250	
Afloat from Pará to United States, July 30..	166	394	440	
Afloat from Pará to Europe, July 30.....	241	360	600	

#### The World's Rubber Stocks.

THE important house of Hecht, Levis & Kahn (Liverpool, London, Paris, and Hamburg) have issued their annual India-rubber statistical chart for the year ending June 30, 1904, from which we extract their estimate of the visible supplies of rub-

ber in the principal markets on that date, placing side by side with them their estimates for former years, as previously published. It will be seen from the totals given that a steady decline has prevailed, the total for June 30 last being 44.2 per cent. less than in 1900. It must be understood that wholly accurate statistics in such a case are not attainable; at the same time there is a striking agreement between the statements of approximate figures prepared by different statisticians, and the firm above named bear a high reputation for the trustworthiness of their estimates. The comparison follows:

STOCKS.	June 30, 1900.	June 30, 1901.	June 30, 1902.	June 30, 1903.	June 30, 1904.
<i>Pará Grades:</i>					
Liverpool.....	2,137	1,467	2,448	1,601	905
Havre.....	95	70	30	65	25
New York.....	601	875	392	383	102
Pará.....	195	28	60	129	174
Afloat ..	1,099	995	900	1,185	878

Total.....	4,127	3,435	3,830	3,363	2,084
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<i>Medium Grades:</i>					
Liverpool.....	1,082	946	585	456	715
London.....	646	742	560	224	306
Antwerp.....	726	954	681	488	689
Lisbon.....	717	544	505	220	290
Rotterdam.....	.....	80	56	56	66
New York.....	571	320	575	246	238

Total.....	3,742	3,506	2,986	1,690	2,304
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TOTAL ALL KINDS	7,869	6,941	6,816	5,053	4,388
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There are comparatively unimportant stocks in certain other European ports—for example, 260 tons (estimated) of Pará sorts. Besides, the table does not indicate the amounts afloat of other than Pará grades. But as these estimates have been prepared each year on the same basis, the table may be relied upon as indicating correctly the declining tendency in the size of stocks. "Medium grades" in the above table include Caucho, or Peruvian rubber, for New York, while European statisticians include this grade with "Pará."

#### United States Crude Rubber Imports.

OFFICIAL STATEMENT—BY FISCAL YEARS.			
FROM—	1901-02.	1902-03.	1903-04.
United Kingdom.....	6,114,107	9,714,597	7,711,910
Germany.....	1,653,678	2,916,814	2,458,568
Other Europe.....	7,779,574	8,078,629	11,206,264
Central America.....	1,121,399	1,083,351	1,264,210
Mexico.....	263,909	251,776	366,104
West Indies.....	63,094	15,609	17,910
Brazil.....	31,532,700	31,119,486	33,109,112
Other South America.....	1,285,792	1,363,832	1,794,492
East Indies.....	558,621	454,594	1,084,689
Other countries.....	40,607	11,883	2,292
Total.....	50,413,481	55,010,571	59,015,551
Value.....	\$25,151,559	\$30,436,710	\$40,444,250
Average per pound.....	49.89 cents.	55 3 cents.	68.5 cents.

EXPORTS of Rubber.....	2,378,353	2,911,538	3,942,002
Net Imports.....	48,035,128	52,099,033	55,073,549

#### Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots—in cents per pound—show practically no change from last month:

Old Rubber Boots and Shoes—Domestic.....	5 $\frac{1}{2}$ @ 5 $\frac{1}{2}$
Do —Foreign.....	4 $\frac{3}{4}$ @ 4 $\frac{3}{4}$
Pneumatic Bicycle Tires.....	3 $\frac{1}{2}$ @ 4
Solid Rubber Wagon and Carriage Tires.....	6
White Trimmed Rubber.....	8 $\frac{1}{2}$ @ 8 $\frac{1}{2}$
Heavy Black Rubber.....	4
Air Brake Hose.....	2 $\frac{1}{4}$ @ 2 $\frac{3}{4}$
Fire and Large Hose.....	1 $\frac{3}{4}$ @ 1 $\frac{3}{4}$
Garden Hose.....	1 $\frac{1}{2}$ @ 1 $\frac{1}{2}$
Matting.....	$\frac{3}{4}$ @ 1



**Rubber Receipts at Manaos.**

DURING July—the first month of the crop year—for three years [courtesy of Messrs. Witt & Co.]:

FROM—	1904.	1903.	1902.
Rio Purús—Acre... .. tons	145	163	173
Rio Madeira.....	140	252	263
Rio Juruá.....	25	2	3
Rio Javary—Iquitos.....	25	14	14
Rio Solimões.....	4	10	7
Rio Negro.....	—	12	17
Total.....	348	453	477
Caucho.....	99	161	165
Total.....	447	614	642

**London.**

EDWARD TILL & CO. [August 2] report stocks:

	1904.	1903.	1902.
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	54	23	130
{ Assam and Rangoon.....	20	11	11
{ Other sorts.....	331	176	398
Total.....	405	210	539
LIVERPOOL { Pará.....	434	981	1739
{ Caucho.....	323	222	220
{ Other sorts.....	602	368	555
Total, United Kingdom.....	1764	1781	3053
Total, July 1.....	1920	2285	3595
Total, June 1.....	1667	2248	3687
Total, May 1.....	1644	2539	3788
Total, April 1.....	1367	2525	3326

**PRICES PAID DURING JULY.**

	1904.	1903.	1902.
Pará fine, hard..	4/ 9½ @ 4/11¼ 3/11 @ 4/ 0½ 2/11½ @ 2/11¼		
Do soft.....	4/ 8 @ 4/10 3/10 @ 3/11 2/10¼ @ 2/11¼		
Negroheads, scrappy.	3/ 7½ @ 3/ 9¼ 3/ 1 @ 3/ 1¼ 2/ 3 @ 2/ 3¼		
Do Cameté.....	2/ 7½ @ 2/ 8¾ 2/ 6 @ 2/ 6¼ 2/		
Bolivian.....	4/11¼ @ 4/11¼ 4/ 1½ 3/ @ 3/ 0½		
Caucho ball.....	3/ 3 @ 3/ 5 3/ @ 3/ 1 2/ 3½ @ 2/ 4		
Do slab.....	2/10 2/ 5½ @ 2/ 6 1/11 @ 1/11½		

**Liverpool.**

WILLIAM WRIGHT & CO. report [August 2]:

*Fine Pará.*—With small stocks and small supplies prices have again advanced, with an active spot demand, and the market closes fully 2d. per pound dearer than last month. The advance has been entirely due to scarcity, and there does not seem much chance at present for a decline, but a good deal, of course, will depend on what action America takes. Upriver fine closes firm at 4s. 11¼d., and Islands at 4s. 10½d. Receipts for the month are 1265 tons, including 240 tons Peruvian, against 1500 tons last month and 1270 tons last year. Deliveries for the month are 963 tons, against 830 tons last month and 855 tons last year.

EDMUND SCHLÜTER & CO. report [August 17]:

*Parás.*—Our market has been limited, owing to short supplies, but generally speaking, the tone may be described as strong. Bolivian fine sold at 5s. 0½d @ 5s. 2d. for spot, and 5s. @ 5s. 0½d. for delivery. Spot fine hard, 5s. 2d. paid, but there is practically nothing to be had in this grade. Soft has again met with demand, and sales have taken place at 4s. 11½d. up to 5s. The close is very strong, with buyers at the best. There has been some speculative business in the more distant positions, at 4s. 10½d. September-October; 4s. 10d., October-November; 4s. 9d., November-December. The two latter deliveries declined to 4s. 9½d. @ 4s. 8½d., with fairly free sellers, who have, however, now withdrawn.

**Antwerp.**

TO THE EDITOR OF THE INDIA RUBBER WORLD: Out of a total of 507 tons of rubber offered at the inscription on August 12th, 468 tons found buyers, of which 397 tons were Congo

sorts and 72 tons sundries. Prices showed an advance of 20 @ 25 centimes per kilogram, or 2½ per cent. advance on brokers' valuations, based on the results of the sale of July 8. Some of the more important lots which changed hands were:

	Valuations.	Sold at.
Lopori I.....	10.50	10.87½
Lopori II.....	6.50	6.25 @ 6.60
Uelé (Upper Congo) strips.....	8.50	9.80
Uelé (Upper Congo) strips.....	8.40	8.82½
Upper Congo balls.....	10.10	10.15
Aruwimi.....	8.90	8.62½
Kasai (Loanda II grade).....	9.80	10.10
Congo Djuma.....	7.	7.40

Total sales since August 1 amount to 493 tons, and our stocks to-day are 373 tons. The next monthly sale will occur on September 23, when 530 tons will be offered.

C. SCHMID & CO., SUCCESSEURS.

Antwerp, Belgium, August 17, 1904.

**ANTWERP RUBBER STATISTICS FOR JULY.**

DETAILS.	1904.	1903.	1902.	1901.	1900.
Stocks, June 30. kilos	689,515	487,999	681,670	954,579	726,376
Arrivals in July.....	639,157	365,406	592,836	470,662	657,767
Congo sorts.....	530,159	324,060	545,223	458,423	632,149
Other sorts.....	108,998	41,346	47,614	12,239	25,618
Aggregating.....	1,328,672	853,405	1,274,506	1,425,241	1,384,143
Sales in July.....	455,926	475,878	584,734	384,800	250,441
Stocks, July 30.....	872,746	377,527	689,772	1,040,441	1,133,702
Arrivals since Jan. 1	3,464,917	2,979,332	3,237,644	3,552,054	3,660,230
Congo sorts.....	2,847,591	2,649,192	3,001,476	3,243,557	3,121,175
Other sorts.....	617,326	330,140	236,168	308,497	548,055
Sales since Jan. 1....	3,203,071	3,259,910	2,962,581	3,125,652	2,827,510

**RUBBER ARRIVALS AT ANTWERP.**

JULY 25.—By the *Anversville*, from the Congo:

Bunge & Co..... (Société Générale Africaine) kilos	133,000
Do..... (Société Isangi)	7,100
Do..... (Chemins de fer des Grand Lacs)	8,000
Do..... (Société "La Kotto")	1,100
Do..... (Sultanats du Haut Obangi)	5,700
Do..... (Société Anversoise)	35,000
A B I R.....	56,000
L. & W. Van de Velde..... (Cie. du Kasai)	55,000
Comptoir Commercial Anversois.....	6,500
..... (Cie. du Kouango Français)	8,200
W. Mallinckrodt & Co..... (La Lobay)	22,000
Charles Dethier..... (La Haut Sangha)	11,000
Société Coloniale Anversoise..... (Belge du Haut Congo)	4,200
Comptoir des Produits Coloniaux..... (Cie. de la N'Goko)	700
M. S. Cols..... (Société L'Ikelemba)	800
Do..... (Société L'Ikelemba)	700
Cie Commerciale des Colonies.....	1,000
Société Equatoriale Congolaise..... (Société L'Ikelemba)	356,600

AUG. 17.—By the *Leopoldville*, from the Congo:

Bunge & Co..... (Société Générale Africaine) kilos	112,000
Do..... (Sultanats du Haut Obangi)	9,500
Do..... (Société "La Kotto")	1,500
Do..... (Cie. du Kasai)	77,000
Cie. Commerciale des Colonies.....	6,000
Société Générale de Commerce..... (Alima)	3,700
M. S. Cols..... (Alima)	2,700
Do..... (Société Baniembe)	700
G. & C. Kreglinger..... (La Lobay)	2,000
Comptoir Commercial Congolais.....	44,000 259,100

W. MALLINCKRODT & CO. on August 1 transferred their India-rubber and Wood departments to the Company for General Trade, Limited, and will devote themselves in future more particularly to banking and stock transactions. They will be largely interested, however, in the new company, which is capitalized at 2,000,000 francs. Mr. W. von Mallinckrodt is chairman of the new company; Mr. C. G. Grisar, vice chairman; Mr. A. Franck and Count E. Le Grelle directors; Mr. E. Schwerdt director and manager; and Messrs. W. Leuchter and G. Schindhelm managers.

**Gutta-Percha.**

WEISE & Co. (Rotterdam) report exports from Singapore for the first six months of five years:

	1900.	1901.	1902.	1903.	1904.
Tons .....	3219	3126	2490	1704	1110

**IMPORTS FROM PARA AT NEW YORK.**

[The Figures Indicate Weights in Pounds.]

**August 3.—By the steamer Basil, from Manáos and Pará:**

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	88,700	13,700	74,000	.....	176,400
A. T. Morse & Co.	9,800	1,400	66,100	33,800	111,100
Poel & Arnold	25,700	2,500	33,100	.....	61,300
Hagemeyer & Brunn	5,400	.....	2,300	.....	7,700
Lionel Hagenars & Co.	5,800	.....	1,300	.....	7,100
Total.....	135,400	17,600	176,800	33,800	363,600

**August 15.—By the steamer Maranhense, from Manáos and Pará:**

Poel & Arnold	81,000	12,800	94,800	4,800	193,400
New York Commercial Co.	100,400	15,400	60,300	700	176,800
A. T. Morse & Co.	58,300	6,900	86,500	.....	151,700
G. Amsinck & Co.	6,700	1,000	6,300	.....	14,000
Lionel Hagenars & Co.	10,300	.....	2,800	.....	13,100
Total .....	256,700	36,100	250,700	5,500	549,000

**August 25.—By the steamer Hilary, from Manáos and Pará:**

New York Commercial Co.	110,900	32,800	40,600	6,000	190,300
A. T. Morse & Co.	50,100	8,700	49,000	5,200	113,000
Poel & Arnold	29,300	5,000	49,300	1,800	85,400
Lionel Hagenars & Co.	8,200	.....	3,900	.....	12,100
Hagemeyer & Brunn	6,100	.....	3,900	.....	10,000
Robinson & Tallman	6,700	1,400	500	.....	8,600
Edmund Reeks & Co.	.....	.....	5,600	.....	5,600
Total .....	211,300	47,900	152,800	13,000	425,000

[NOTE.—The steamer Bernard, from Pará, is due at New York on September 6, with 90 tons Rubber.]

**PARA RUBBER VIA EUROPE.**

	POUNDS.
AUG. 1.—By the <i>Celtic</i> =Liverpool:	
A. T. Morse & Co. (Fine) .....	9,000
AUG. 1.—By the <i>Kroonland</i> =Antwerp:	
New York Commercial Co. (Fine) ..	4,500
AUG. 3.—By the <i>Seguranea</i> =Mollendo:	
Chicago Bolivian Rubber Co. (Fine) ..	16,000
AUG. 4.—By the <i>Grenada</i> =Ciudad Bolívar:	
Middleton & Co. (Fine) .....	3,500
Middleton & Co. (Coarse) .....	4,500
AUG. 5.—By the <i>Baltic</i> =Liverpool:	
Poel & Arnold (Fine) .....	21,000
AUG. 5.—By the <i>Carpattia</i> =Liverpool:	
New York Commercial Co. (Fine) ..	62,000
AUG. 6.—By the <i>Campania</i> =Liverpool:	
New York Commercial Co. (Fine) ..	32,000
Poel & Arnold (Fine) .....	11,000
AUG. 12.—By the <i>Prins Willem Third</i> =Ciudad Bolívar:	
Thebaud Brothers (Fine) .....	11,000
Thebaud Brothers (Coarse) .....	2,500
AUG. 15.—By the <i>Cedric</i> =Liverpool:	
Poel & Arnold (Fine) .....	41,000
Poel & Arnold (Coarse) .....	25,000
A. T. Morse & Co. (Fine) .....	20,000
AUG. 15.—By the <i>Eturia</i> =Liverpool:	
New York Commercial Co. (Fine) ..	24,000
Poel & Arnold (Fine) .....	22,500
A. T. Morse & Co. (Fine) .....	22,500
AUG. 16.—By the <i>Finland</i> =Antwerp:	
New York Commercial Co. (Fine) ..	51,000
AUG. 18.—By the <i>Aurania</i> =Liverpool:	
New York Commercial Co. (Fine) ..	8,000
AUG. 22.—By the <i>New York</i> =London:	
Poel & Arnold (Coarse) .....	22,500
AUG. 24.—By the <i>Advance</i> =Mollendo:	
Chicago Bolivian Rubber Co. (Fine) ..	12,000

**OTHER ARRIVALS AT NEW YORK****CENTRALS.**

	POUNDS.
JULY 25.—By the <i>Comus</i> =New Orleans:	
Manhattan Rubber Mfg. Co. ....	2,000
A. S. Lascellas & Co. ....	1,000
JULY 27.—By the <i>Sarnia</i> =Savannah, etc.:	
De Sola & Pardo .....	1,000
Suzarte & Whitney .....	300
G. Amsinck & Co. ....	300
Cadenas & Co. ....	500
Jimenez & Escobar .....	500
Czarnikow, MacDougal Co. ....	100
D. A. De Lima & Co. ....	200
Kunhardt & Co. ....	200
JULY 28.—By the <i>Eastern Prince</i> =Bahia:	
J. H. Rossbach & Bros. ....	106,000
Hirsch & Kaiser .....	2,500
JULY 29.—By the <i>El Cid</i> =New Orleans:	
A. N. Rotholz .....	2,000
Manhattan Rubber Mfg. Co. ....	1,500
A. T. Morse & Co. ....	1,000

**CENTRALS—Continued.**

AUG. 1.—By the <i>Terence</i> =Bahia:	
J. H. Rossbach & Bros. ....	76,000
Hirsch & Kaiser .....	24,000
AUG. 1.—By the <i>Proteus</i> =New Orleans:	
Manhattan Rubber Mfg. Co. ....	3,700
AUG. 3.—By the <i>Seguranea</i> =Colon:	
Hirzel, Feltman & Co. ....	14,000
Roldan & Van Sickle .....	4,100
A. Santos & Co. ....	3,800
Livingstone & Co. ....	4,600
A. Rosenthal & Sons .....	3,100
A. M. Capen Sons .....	2,100
G. Amsinck & Co. ....	4,300
Isaac Brandon & Bros. ....	2,400
Harburger & Stack .....	2,400
P. za, Nephews & Co. ....	1,100
Dumarest Bros. & Co. ....	2,000
W. R. Grace & Co. ....	1,000
Meyer Hecht .....	800
Silva, Bussenius & Co. ....	800
Smithers, Nordenholt & Co. ....	400
Kunhardt & Co. ....	300
AUG. 6.—By the <i>Havana</i> =Frontera:	
Harburger & Stack .....	2,000
E. Steiger & Co. ....	1,500
H. Marquardt & Co. ....	1,000
AUG. 8.—By the <i>Comus</i> =New Orleans:	
A. T. Morse & Co. ....	4,000
AUG. 10.—By the <i>Carib II</i> =Truxillo, etc.:	
Eggers & Heinlein .....	10,000
A. S. Lascellas & Co. ....	1,200
H. W. Peabody & Co. ....	800
AUG. 9.—By the <i>Siberia</i> =Port Limon:	
Isaac Brandon & Bros. ....	2,000
D. A. De Lima & Co. ....	1,000
G. Amsinck & Co. ....	1,000
Lawrence Johnson & Co. ....	700
A. D. Straus & Co. ....	400
Kunhardt & Co. ....	300
Bartling & DeLeon .....	200
AUG. 10.—By the <i>Alliance</i> =Colon:	
Hirzel, Feltman & Co. ....	3,000
Harburger & Stack .....	1,900
G. Amsinck & Co. ....	1,800
Meyer Hecht .....	1,500
Jimenez & Escobar .....	1,100
E. B. Strout .....	700
Livingstone & Co. ....	300
Eggers & Heinlein .....	800
AUG. 11.—By the <i>Canning</i> =Bahia:	
J. H. Rossbach & Bros. ....	80,000
Hirsch & Kaiser .....	22,500
AUG. 12.—By the <i>Finances</i> =Colon:	
G. Amsinck & Co. ....	3,600
Lawrence Johnson & Co. ....	1,000
Isaac Brandon & Bros. ....	600
A. Rosenthal & Sons .....	500
Andreas & Co. ....	400
De Sola & Pardo .....	400
AUG. 13.—By the <i>Monterey</i> =Mexico:	
H. Marquardt & Co. ....	3,500
Graham, Hinkley & Co. ....	2,000
Harburger & Stack .....	2,000
Fred. Probst & Co. ....	1,500
Thebaud Brothers .....	700
L. N. Chemedill & Co. ....	700
E. N. Tibbals & Co. ....	700
American Trading Co. ....	700

**CENTRALS—Continued.**

Isaac Kuble & Co. ....	500
For Hamburg, etc. ....	14,000
AUG. 15.—By the <i>Proteus</i> =New Orleans:	
Manhattan Rubber Mfg. Co. ....	1,500
A. T. Morse & Co. ....	1,000
Eggers & Heinlein .....	1,500
AUG. 17.—By the <i>Yucatan</i> =Colon:	
Hirzel, Feltman & Co. ....	29,400
A. Santos & Co. ....	8,500
Lawrence Johnson & Co. ....	7,000
G. Amsinck & Co. ....	5,600
American Trading Co. ....	3,900
Harburger & Stack .....	3,100
Mecke & Co. ....	3,000
Dumarest Bros. & Co. ....	2,500
Isaac Brandon & Bros. ....	1,300
J. H. Becknagel & Son .....	600
Roldan & Van Sickle .....	500
Kunhardt & Co. ....	500
Schultz & Ruckgaber .....	300
Graham, Hinkley & Co. ....	300
AUG. 19.—By the <i>El Valle</i> =New Orleans:	
A. N. Rotholz .....	9,000
AUG. 20.—By the <i>Esperanza</i> =Mexico:	
H. Marquardt & Co. ....	2,500
E. Steiger .....	1,000
L. N. Chemedill & Co. ....	1,000
E. N. Tibbals & Co. ....	100
Graham, Hinkley & Co. ....	700
AUG. 22.—By the <i>Byron</i> =Bahia:	
J. H. Rossbach & Bros. ....	17,500
A. D. Hilt & Co. ....	3,500
Lawrence Johnson & Co. ....	1,500
AUG. 24.—By the <i>Advance</i> =Colon:	
A. Santos & Co. ....	5,700
Hirzel, Feltman & Co. ....	4,600
G. Amsinck & Co. ....	3,500
Roldan & Van Sickle .....	3,100
Livingstone & Co. ....	2,800
Lawrence Johnson & Co. ....	2,300
Eggers & Heinlein .....	1,700
A. Rosenthal & Sons .....	1,600
Isaac Brandon & Bros. ....	1,500
Dumarest Bros. & Co. ....	1,300
J. A. Paul & Co. ....	1,200
A. M. Capen Sons .....	900
Silva, Bussenius & Co. ....	800

**AFRICANS.**

	POUNDS.
JULY 25.—By the <i>Arable</i> =Liverpool:	
General Rubber Co. ....	66,000
A. T. Morse & Co. ....	11,000
JULY 25.—By the <i>Rotterdam</i> =Rotterdam:	
Poel & Arnold .....	9,000
JULY 26.—By the <i>Vaderland</i> =Antwerp:	
Poel & Arnold .....	266,000
Joseph Cantor .....	68,000
Robinson & Tallman .....	28,000
A. T. Morse & Co. ....	22,000
JULY 28.—By the <i>Teutonic</i> =Liverpool:	
Poel & Arnold .....	27,000
JULY 28.—By the <i>Pennsylvania</i> =Hamburg:	
Poel & Arnold .....	40,000
Rubber Trading Co. ....	9,000
George A. Alden & Co. ....	5,500

AFRICANS—Continued.			EAST INDIAN.			GUTTA-PERCHA AND BALATA		
AUG. 1.—By the Umbria=Liverpool:			JULY 25.—By the Indravelli=Singapore:			JULY 25.—By the La Bretagne=Havre:		
Poel & Arnold.....	5,800		Pierre T. Betts.....	17,500		To order.....	7,000	
A. T. Morse & Co.....	5,500		JULY 28.—By the Pennsylvania=Hamburg:			AUG. 4.—By the Patricia=Hamburg:		
George A. Alden & Co.....	11,000	19,500	George A. Alden & Co.....	4,500		To order.....	1,500	
AUG. 1.—By the Peninsular=Lisbon:			AUG. 3.—By the Schonfels=Calcutta:			Kempshall Mfg. Co.....	2,500	4,000
General Rubber Co.....	100,000		George A. Alden & Co.....	20,000		AUG. 15.—By the Bries Huel=Singapore:		
AUG. 1.—By the Kroonland=Antwerp:			AUG. 4.—By the St. Paul=London:			D. A. Shaw & Co.....	75,000	
George A. Alden & Co.....	118,000		Poel & Arnold.....	9,000		BALATA.		
A. T. Morse & Co.....	18,000	136,000	AUG. 5.—By the Carpathia=Liverpool:			JULY 27.—By the Korona=Demerara:		
AUG. 5.—By the Baltic=Liverpool:			Poel & Arnold.....	8,000		Middleton & Co.....	3,000	
Poel & Arnold.....	12,500		AUG. 6.—By the Philadelphia=London:			AUG. 2.—By the Minnehaha=London:		
AUG. 4.—By the Patricia=Hamburg:			A. T. Morse & Co.....	4,500		Earle Brothers.....	2,500	
A. T. Morse & Co.....	11,000		Poel & Arnold.....	1,500	6,000	AUG. 4.—By the Grenada=Trinidad:		
Rubber Trading Co.....	7,000	18,000	AUG. 15.—By the Bries Huel=Singapore:			Frame & Co.....	3,000	
AUG. 5.—By the Carpathia=Liverpool:			Winter & Smillie.....	9,000		AUG. 8.—By the Proctida=Demerara:		
Poel & Arnold.....	12,000		Rubber Trading Co.....	3,500	12,500	George A. Alden & Co.....	5,000	
George A. Alden & Co.....	11,000		AUG. 17.—By the Mesaba=London:			Middleton & Co.....	3,000	
A. T. Morse & Co.....	3,000	26,000	A. T. Morse & Co.....	4,000		Frame & Co.....	1,500	9,500
AUG. 9.—By the Zealand=Antwerp:			AUG. 18.—By the Aurania=Liverpool:			CUSTOM HOUSE STATISTICS.		
Poel & Arnold.....	29,000		Poel & Arnold.....	10,000		PORT OF NEW YORK—JULY.		
A. T. Morse & Co.....	5,000		AUG. 19.—By the Ras Issa=Singapore:			Imports:		
Earle Brothers.....	3,500	37,500	Poel & Arnold.....	10,000		India-rubber.....	3,169,261	\$2,061,604
AUG. 11.—By the Majestic=Liverpool:			Winter & Smillie.....	10,000	20,000	Gutta-percha.....	30,155	13,726
Poel & Arnold.....	26,000		AUG. 19.—By the Pretoria=Hamburg:			Gutta-jelutong (Pontianak).....	1,451,575	45,280
AUG. 12.—By the Phoenix=Liverpool:			A. T. Morse & Co.....	45,000		Total.....	4,650,991	\$2,120,510
A. T. Morse & Co.....	21,500		AUG. 22.—By the York Castle=Calcutta:			Exports:		
AUG. 15.—By the Etruria=Liverpool:			Poel & Arnold.....	33,500		India-rubber.....	52,954	\$35,360
George A. Alden & Co.....	26,000		AUG. 22.—By the Salsuma=Singapore:			Reclaimed rubber.....	330,460	35,802
AUG. 15.—By the Cedric=Liverpool:			Winter & Smillie.....	11,500		Rubber Scrap Imported.....	1,212,521	\$70,321
General Rubber Co.....	75,000		George A. Alden & Co.....	15,000		BOSTON ARRIVALS.		
Poel & Arnold.....	42,000		Pierre T. Betts.....	15,000		JULY 18.—By the Saxonia=Liverpool:		
A. T. Morse & Co.....	2,000	119,000	Robert Brans & Co.....	22,500	61,000	George A. Alden & Co.—African.....	11,088	
AUG. 17.—By the Oceanic=Liverpool:			PONTIANAK.			JULY 27.—By the Cestrian=Liverpool:		
Poel & Arnold.....	13,500		JULY 25.—By the Indravelli=Singapore:			Poel & Arnold—African.....	2,580	
AUG. 18.—By the Aurania=Liverpool:			Winter & Smillie.....	320,000		Total.....	13,668	
George A. Alden & Co.....	22,500		George A. Alden & Co.....	110,000		[Import Value, \$9,032.]		
AUG. 19.—By the Pretoria=Hamburg:			Robert Brans & Co.....	100,000	530,000			
Poel & Arnold.....	49,000		AUG. 15.—By the Bries Huel=Singapore:					
George A. Alden & Co.....	6,500		George A. Alden & Co.....	225,000				
A. T. Morse & Co.....	4,500	80,000	Robinson & Tailman.....	70,000				
AUG. 22.—By the Arabic=Liverpool:			Winter & Smillie.....	200,000				
Poel & Arnold.....	22,500		Robert Brans & Co.....	140,000	635,000			
AUG. 23.—By the Vaderland=Antwerp:			AUG. 19.—By the Ras Issa=Singapore:					
Poel & Arnold.....	45,000		Winter & Smillie.....	200,000				
A. T. Morse & Co.....	13,000	58,000	AUG. 22.—By the Salsuma=Singapore:					
AUG. 24.—By the Georgie=Liverpool:			George A. Alden & Co.....	375,000				
George A. Alden & Co.....	80,000		Robert Brans & Co.....	225,000				
General Rubber Co.....	58,000	135,000	Winter & Smillie.....	115,000				
			Robinson & Tailman.....	45,000	760,000			

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1904.....	2,496,700	299,077	2,197,623	June, 1904.....	4,700,976	2,238,992	2,461,984
January-May.....	31,994,423	1,461,909	30,532,514	January-May.....	26,208,896	15,310,070	10,898,826
Six months, 1904.....	34,491,123	1,760,986	32,730,137	Six months, 1904.....	30,909,872	17,549,062	13,360,810
Six months, 1903.....	28,568,764	1,567,915	27,000,849	Six months, 1903.....	29,328,208	19,415,872	9,912,336
Six months, 1902.....	27,142,090	1,852,299	25,290,691	Six months, 1902.....	26,287,968	15,150,688	11,137,280
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1904.....	3,272,500	949,300	2,323,200	June, 1904.....	103,620	2,860	100,760
January-May.....	15,022,260	4,284,280	10,737,980	January-May.....	738,100	49,280	688,820
Six months, 1904.....	18,294,760	5,233,580	13,061,180	Six months, 1904.....	841,720	52,140	789,580
Six months, 1903.....	18,357,240	6,086,020	11,671,220	Six months, 1903.....	899,360	94,380	804,980
Six months, 1902.....	16,475,140	6,280,560	10,194,580	Six months, 1902.....	767,800	75,240	692,560
FRANCE.*				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1904.....				June, 1904.....	267,740	nil.	267,740
January-May.....	9,274,320	5,946,820	3,327,500	January-May.....	1,273,580	10,340	1,263,240
Six months, 1904.....				Six months, 1904.....	1,541,320	10,340	1,530,980
Six months, 1903.....	8,326,560	4,609,880	3,716,680	Six months, 1903.....	1,504,580	12,320	1,492,260
Six months, 1902.....	8,955,320	4,361,280	4,594,040	Six months, 1902.....	1,408,880	6,820	1,402,060

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canada consumption.

\* General Commerce.



